Self Diagnosis Supported model

SERVICE MANUAL AG3E CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-DR29M69	RM-991	GE	SCC-U84A-A				

TRINITRON ® COLOR TV

SONY ®

SPECIFICATIONS

			Note
Power requirements	110-240V AC, 50/60 Hz		KV-DR29M39/DR29M69/DR29M89
	220-240V AC, 50/60 Hz		KV-DR29M63
Power consumption (W)	Indicated on the rear of the TV		
Television system	B/G, I, D/K, M		
Color system	PAL, PAL 60, SECAM, NTSC3.58, NTSC4.43		
Stereo/Bilingual system	NICAM Stereo/Bilingual B/G, I; A2 Stereo/Bilingual B/G		KV-DR29M39/DR29M63/DR29M69
Teletext language	English, Arabic, French		
Channel coverage **B/G**	VHF: E2 to E12 UHF: E21 to E69 CATV: S01 to S03, S1 to S41		
	VHF: 1 to 11 UHF: 21 to 69 CATV: S01 to S03, S1 to S41		KV-DR29M39
I	UHF: B21 to B68 CATV: S01 to S03, S1 to S41		
D/K	VHF: C1 to C12, R1 to R12 UHF: C13 to C57, R21 to R60 CATV: S01 to S03, S1 to S41, Z1 to Z39		
M	VHF: A2 to A13 UHF: A14 to A79 CATV: A-8 to A-2, A to W+4, W+6 to W+84		
(Antenna)	75-ohm external terminal		
Audio output (Speaker)	6W + 6W		
3D WOOFER	15W		
Number of terminal **Video**	Input: 4	Output: 1	Phone jacks; 1 Vp-p, 75 ohms
Audio	Input: 4	Output: 1	Phone jacks; 500 mVrms
(S Video)	Input : 2		Y: 1 Vp-p, 75 ohms unbalanced, sync negative C: 0.286 Vp-p, 75 ohms
(Component Video)	Input : 1		Phono jacks: Y: 1 Vp-p, 75 ohms, sync negative P_B/C_B: 0.7 Vp-p, 75 ohms P_R/C_R: 0.7 Vp-p, 75 ohms Audio: 500mVrms
(Headphone)	Output: 1		Stereo minijack
Picture tube	29 in		
Tube size (cm)	72		Measured diagonally
Screen size (cm)	68		Measured diagonally
Dimension (w/h/d,mm)	786 × 596 × 514		
Mass (kg)	57		

Design and specifications are subject to change without notice.

CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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SELF DIAGNOSTIC FUNCTION

The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/TIMER lamp will automatically begin to flash.
The number of times the lamp flashes translates to a probable source of the problem. A definition of the STANDBY/TIMER lamp flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the remote commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

1. DIAGNOSTIC TEST INDICATORS

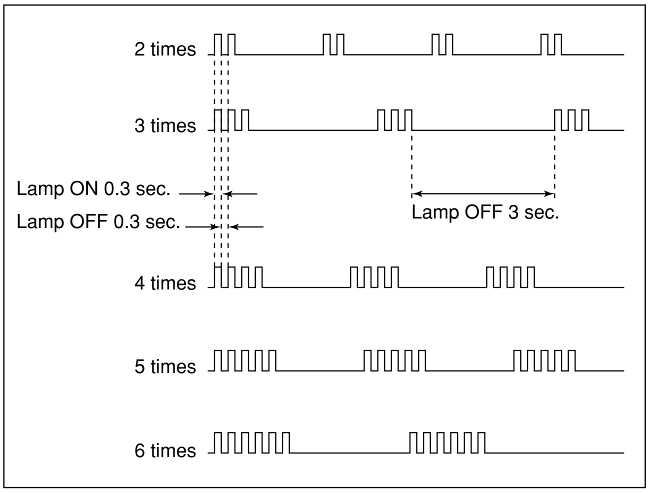
When an error occurs, the STANDBY/TIMER lamp will flash a number of times to indicate the possible cause of the problem. If there is more than one error, the lamp will identify the first of the problem areas.

Result for all of the following diagnostic items are displayed on screen. No error has occured if the screen displays a "0".

Diagnostic Item Description	No. of times STANDBY/TIMER lamp flashes	Self-diagnostic display/Diagnostic result	Probable Cause Location	Detected Symptoms
• Power does not turn on	Does not light	—	• Power cord is not plugged in. • Fuse is burned out F1601 (F1 Board)	• Power does not come on. • No power is supplied to the TV. • AC power supply is faulty.
• +B overcurrent (OCP)	2 times	002:000 or 002:001~255	• H.OUT Q6807 is shorted. • H.IN Q6810 is shorted. Q6802 shorted.	• Power does not come on. • Load on power line is shorted.
• +B overvoltage (OVP)	3 times	003:000 or 003:001~255	• PH6602 faulty. D6644 faulty, R6651 open. • 10.5V is not supplied. (D board)	• Power does not come on.
• Vertical deflection failure	4 times	004:000 or 004:001~255	• V.OUT IC6800 faulty D6816 faulty D6817 faulty D6824 faulty R6852 open R6851 open (D board)	• Vertical deflection pulse is stopped. • Vertical size is too small. • Vertical deflection stopped.
• White balance failure (no PICTURE)	5 times	005:000 or 005:001~255	• G2 is improperly adjusted. (Note 2) • CRT problem. • Video OUT IC9001, 9002, 9003 are faulty. (C board) • IC8306 (A board) and IC4301 (A board) are faulty.	• No raster is generated. • CRT cathode current detection reference pulse output is small.
• Horizontal deflection failure	6 times	006:000 or 006:001~225	• C6831 is open circuit. PS6606 open, PS6605 open. (D board)	• H pulse output is too high.
• Micro reset	—	101:00 or 101:001~225	• CRT Discharge (C Board) • Static discharge • External noise	• Power is shut down shortly, after this return back to normal. • Detect Micro latch up.

Note 1: Refer to screen (G2) Adjustment in section 5-5 of this manual.

2. DISPLAY OF STANDBY/TIMER LIGHT FLASH COUNT



Diagnostic Item	Flash Count*
+B overcurrent	2 times
+B overvoltage	3 times
V deflection stop	4 times
White balance failure	5 times
Horizontal Deflection Failure	6 times

* One flash count is not used for self-diagnostic.

STANDBY/SLEEP lamp

3. STOPPING THE STANDBY/TIMER FLASH

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/TIMER lamp from flashing.

4. SELF-DIAGNOSTIC SCREEN DISPLAY

For errors with symptoms such as “power sometimes shuts off” or “screen sometimes goes off” that cannot be confirmed, it is possible to bring up past occurances of failure for confirmation on the screen:

[To Bring Up Screen Test]
In standby mode, press buttons on the remote commander sequentially in rapid succession as shown below:

[Screen display] ➡ channel [5] ➡ Sound volume [-] ➡ Power ON

⇧

Note that this differs from entering the service mode (mode volume [+]).

Self-Diagnosis screen display

SELF DIAGNOSTIC
002 : 000 ← Numeral "0" means that no fault has been detected.
003 : 000
004 : 000
005 : 001 ← Numeral "1" means a fault has been detected.
006 : 002 ← Numeral "2" means two faults have been detected.

101 : 000

5. HANDLING OF SELF-DIAGNOSTIC SCREEN DISPLAY

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to "0".

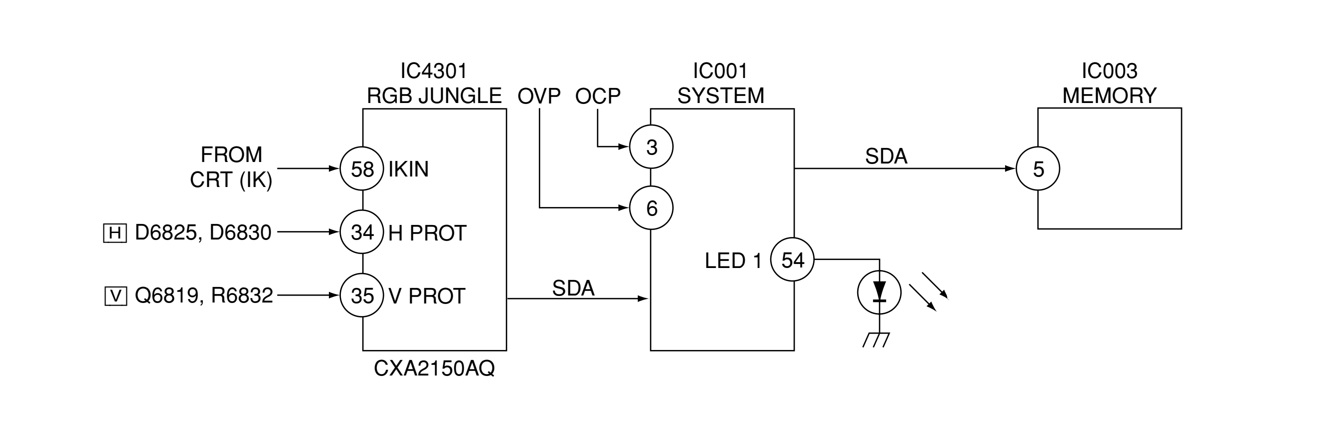
Unless the result display is cleared to "0", the self-diagnostic function will not be able to detect subsequent faults after completion of the repairs.

[Clearing the result display]
To clear the result display to "0", press buttons on the remote commander sequentially as shown below when the diagnostic screen is being displayed.

Channel [8] ➡ 0

[Quitting Self-diagnostic screen]
To quit the entire self-diagnostic screen, turn off the power switch on the remote commander or the main unit.

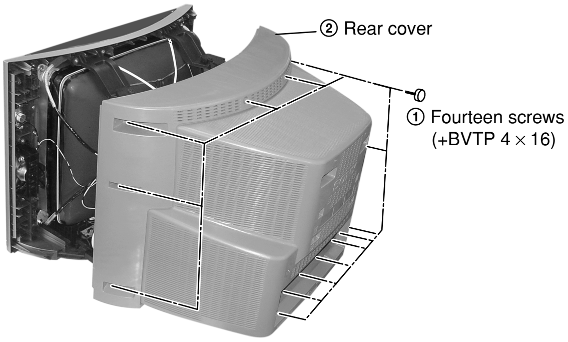
6. SELF-DIAGNOSTIC CIRCUIT



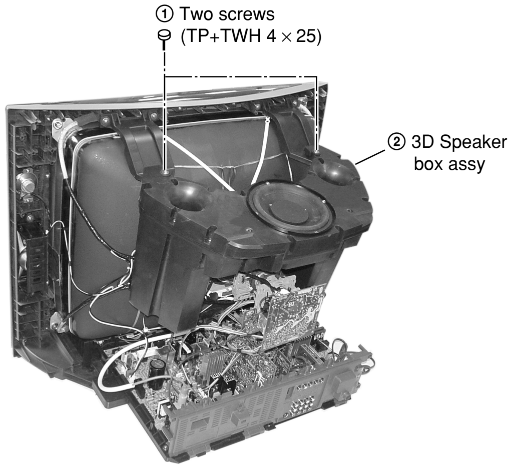
+B overcurrent (OCP)	Occurs when an overcurrent on the +B(135) line is detected by Q6610 and Q6609. If Q6610 and Q6609 go to ON, the voltage to the pin3 of IC001 go to UP. The unit will automatically turn off.
+B overvoltage (OVP)	Occurs when an overvoltage on the +B(135) line is detected by D6635 and Q6611. If Q6611 go to ON, the voltage to pin6 of IC001 go to UP. The unit will automatically turn off.
Vertical deflection failure	Occurs when an absence of the vertical deflection pulse is detected by Q6819 and R6832. Shut down the power supply.
White balance failure	If the RGB levels do not balance or become low level within 5 seconds. This error will be detected by IC4301. TV will stay on, but there will be no picture.
High voltage protector of Horizontal Deflection	Occurs when an overvoltage of horizontal pulse is detected by D6809 and IC6801. If the voltage of anode D6830, Q6800 and D6825 goes to High, the voltage to pin34 of IC4301 go to UP. The unit will automatically turn off.

SECTION 1
DISASSEMBLY

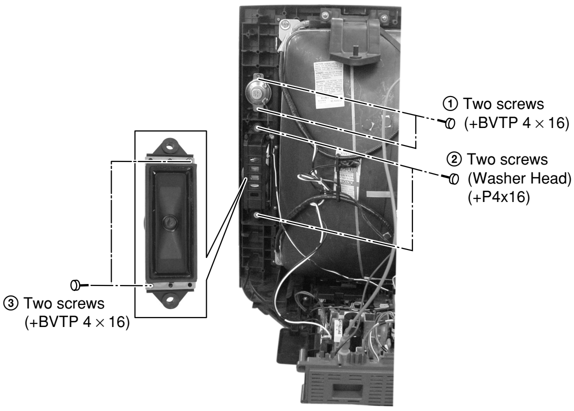
1-1. REAR COVER REMOVAL



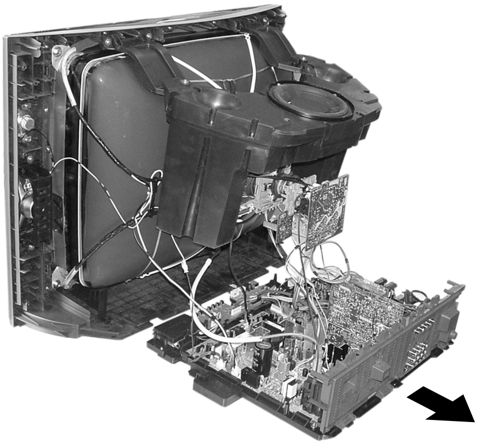
1-2. 3D SPEAKER BOX REMOVAL



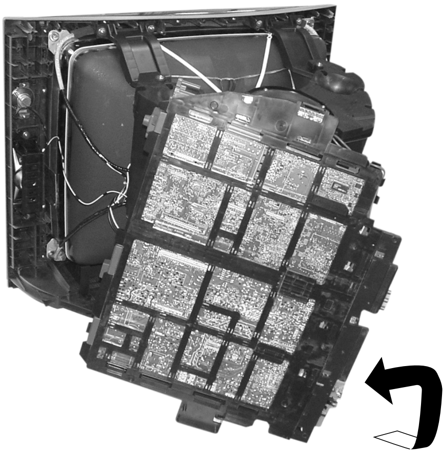
1-3. SPEAKER REMOVAL



1-4. CHASSIS ASSY REMOVAL



1-5. SERVICE POSITION

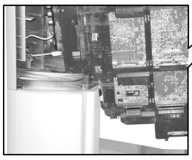


1-6. SERVICE POSITION ON TV STAND

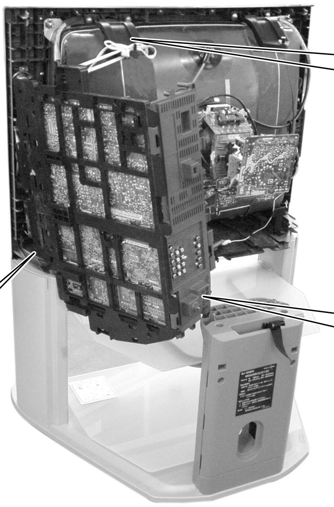
Note: • The picture tube for OCE model is upside down and the position for the anode cap and tension springs are changed accordingly. (KV-DR29M39 (OCE) only)

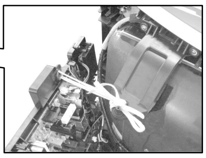
1) Remove the Rear Cover (refer 1-1)
   - unscrew all 14 screws fixed on the Rear Cover. Hold the top of the TV Cabinet; lift the Rear Cover slightly upwards to release the Rear Cover foot from the TV Stand and slide it backwards from the TV Cabinet.
2) Remove the 3D Speaker Box (refer 1-2)
3) Release the Lead Assy Speaker (left side)
4) Lift up the chassis and place it in the Service Position as shown:-

Caution: 1) In Service Position, make sure all the TV connections are connected correctly before turning on the TV set.
2) The TV on the TV Stand without Rear Cover is unstable. As such be careful not to push the TV foward or backward

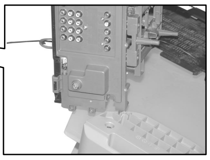


Place the front of the main bracket on to the foot of the TV Cabinet



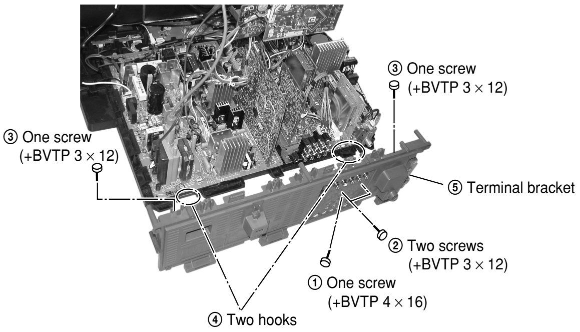


Use a non elastic and non conductive string to tie the main bracket to the woofer bracket



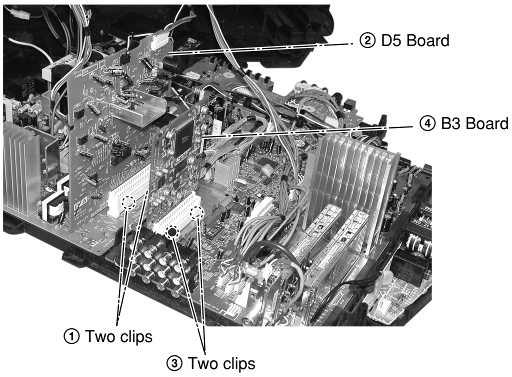
Place the Terminal Bracket edge into the hole on the TV Stand foot

1-7. TERMINAL BRACKET REMOVAL

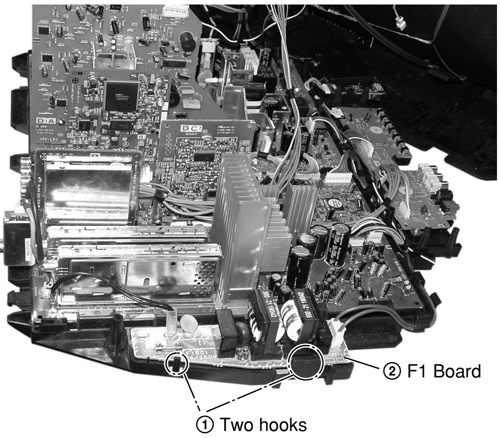


1-8. B3 AND D5 BOARDS REMOVAL

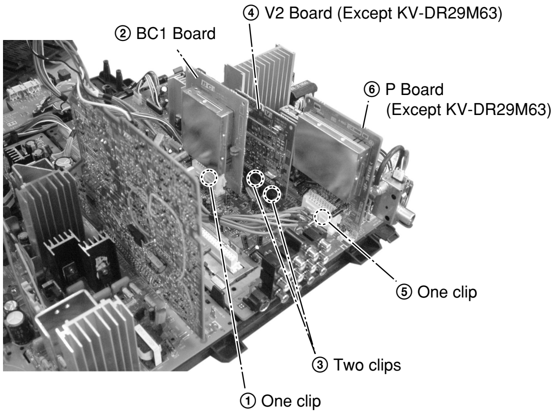
Note: Access to the B3 board is possible after removal of the shiledcase. Remove the shiledcase by removing 2 screws +BVTP 3x16



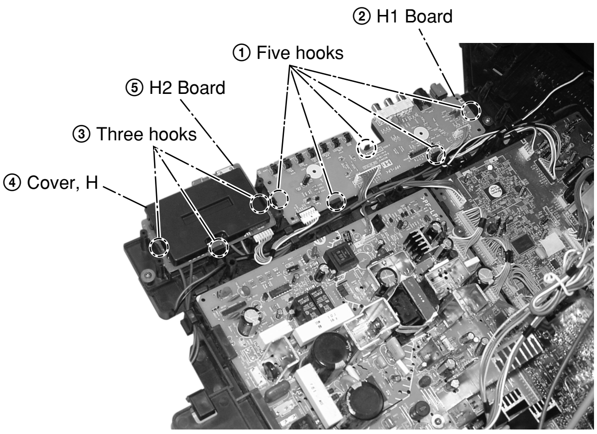
1-9. F1 BOARD REMOVAL



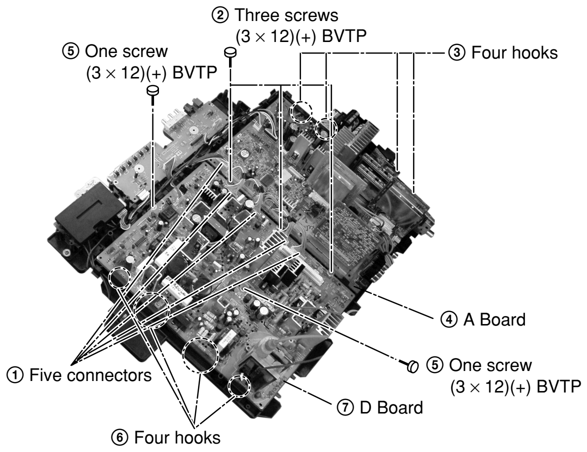
1-10. BC1, P AND V2 BOARDS REMOVAL



1-11. H1 AND H2 BOARDS REMOVAL



1-12. A AND D BOARDS REMOVAL

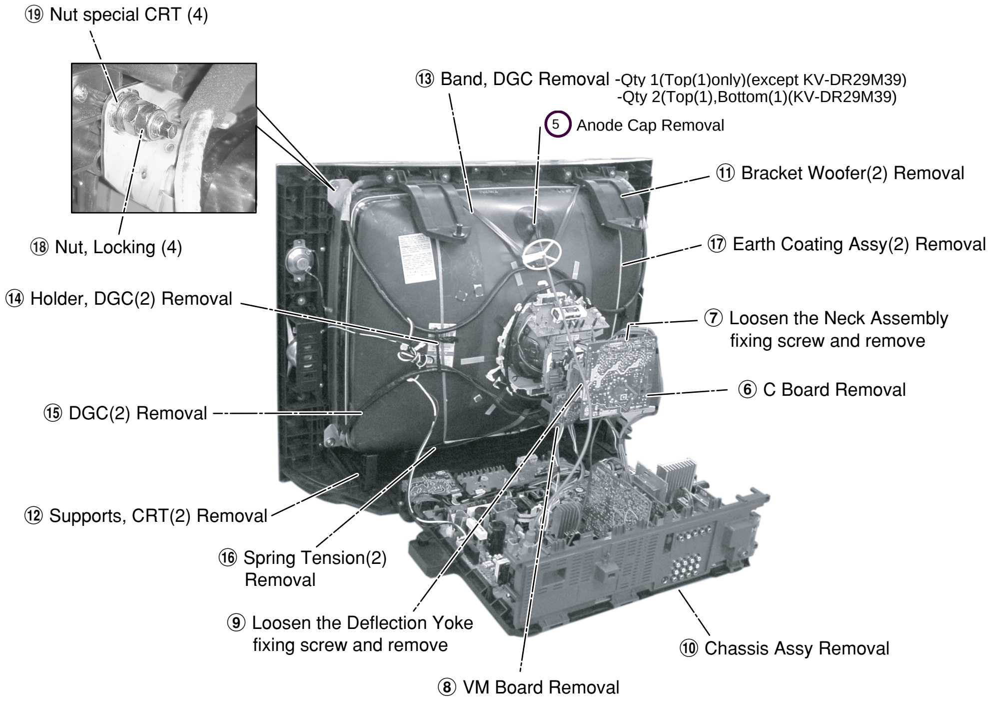


1-13. PICTURE TUBE REMOVAL

Note:

- The picture tube for OCE model is upside down and the position for the anode cap and tension springs are changed accordingly. (KV-DR29M39 (OCE) only)
- Please make sure the TV set is not in standing position before removing necessary CRT support located on bottom right and left.
- When removing the Nut Locking: first make sure to hold the Nut special CRT with a spanner while opening the Nut Locking using a torque driver. Then proceed to remove the Nut special CRT using a torque driver.

1) Place the TV set with the CRT face down on a cushion (jig).
2) Removal the Rear Cover.
3) Removal the 3D Box.
4) Unplug all interconnecting leads from the Deflection Yoke, Neck Assy, Degaussing Coils and CRT grounding strap.

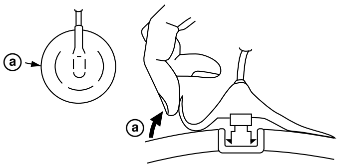


• REMOVAL OF ANODE-CAP

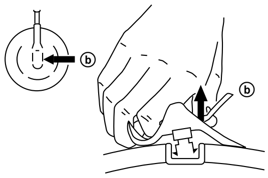
Note:

- After removing the anode, short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT.

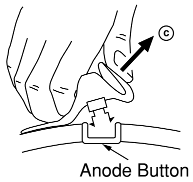
• REMOVING PROCEDURES



① **Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.**



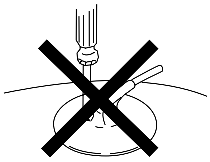
② **Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.**

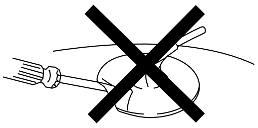


③ **When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ.**

• HOW TO HANDLE AN ANODE-CAP

① **Do not damage the surface of anode-caps with sharp shaped objects.**
② **Do not press the rubber too hard so as not to damage the inside of anode-cap.**
A metal fitting called the shatter-hook terminal is built into the rubber.
③ **Do not turn the foot of rubber over too hard.**
The shatter-hook terminal will stick out or damage the rubber.



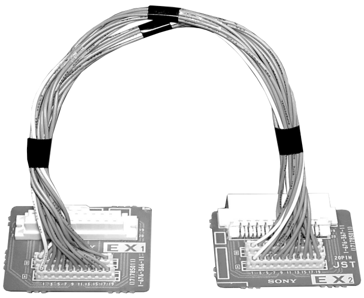


SECTION 2
SERVICE JIG

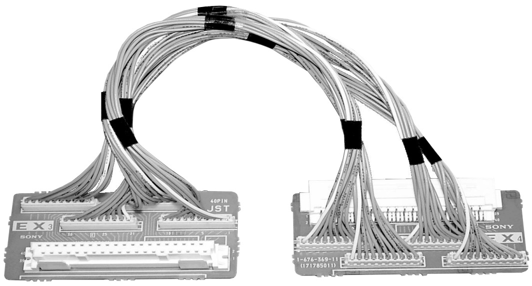
2-1. JIGS REQUIRED FOR SERVICING

REF NO.	DESCRIPTION	QUANTITY	PART NO.	REMARK
J-1	TOOL(20P),SERVICE	1 1	3-702-763-01	For A to BC1 board extension For A to P board extension (except KV-DR29M63)
J-2	TOOL(40P),SERVICE	1	3-702-764-01	For A to B3 board extension
J-3	TOOL(50P-A),SERVICE	1	3-702-765-01	For D to D5 board extension
J-4	TOOL(7PX2),SERVICE	1	3-702-775-01	For A to V2 board extension (except KV-DR29M63)

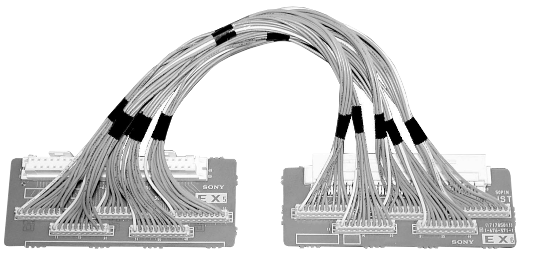
J-1



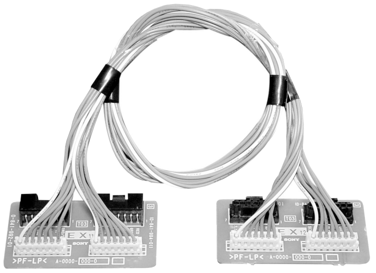
J-2



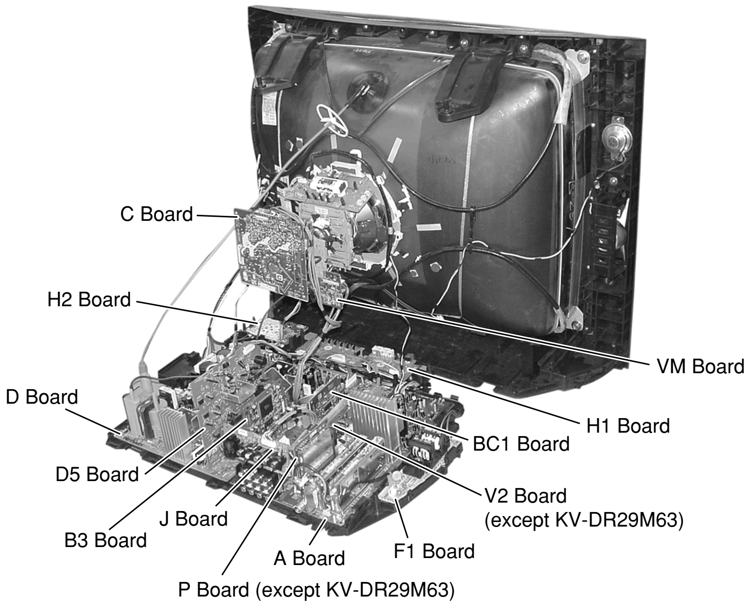
J-3



J-4



SECTION 3
CIRCUIT BOARDS LOCATION



SECTION 4
ADVANCE OPERATION

4-1. "RESET" FUNCTION

1. Purpose

If a customer faces some setting problem that cannot be solved, using the "RESET" function some items will be reset to its original setting (shipping condition)

2. How to Operate

There are 2 ways to access to the "RESET" Function:-

a) By pressing "RESET" button on the Remote Commander.
b) By pressing "MENU" button on the Front Key Input and hold it down for 5 seconds.

3. Subsequent of Operation

Sequential to the resetting operation (either methods being used in No. 2), TV set would shut down once and automatically turn on again. The power-off duration is expected to be about 500msec. An OSD message, "RESET" tentatively will be displayed for 10 sec after IK status gets stable.
As a result, some items will be reset to an initial condition (shipment condition) wheareas some other remains at the last selection by user.

Items that remains at the last selection by user

Program No., PIC rotation, OSD Language, Fine tuning, TV System, Skip

Reset Items

Video input	RF	Antenna sensitivity	HIGH* (except KV-DR29M63)
Volume	30	Stereo mode	STEREO/NICAM*
DRC-MF	DRC1250	Bilingual mode	MAIN*
Picture mode	DYNAMIC	High-deviation mode	AUTO*
Sound mode	DYNAMIC	Child lock	OFF*
Surround mode	OF	Wide mode	OFF
Color system(video)	AUTO	Game mode	OFF
Multi picture(PIP)	OFF	Teletext mode	OFF
PIP position	Bottom-right	Sleep timer	OFF
OSD recall	OFF	Wake-up timer	OFF
Intelligent volume	OFF	Sound muting	OFF
ECO mode	OFF	3DNR	ON
Color system(RF)	AUTO*		

*= only when in RF mode

SECTION 5
SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switches should be set as follows unless otherwise noted:

PICTURE control .... normal
BRIGHTNESS control .... normal

Perform the adjustments in the following order :

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

Note : Test Equipment Required.

1. Color-bar/Pattern Generator
2. Degausser
3. Oscilloscope

Preparation :

- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and degauss with the degausser.

5-1. BEAM LANDING

1. Input a white signal with the pattern generator.
   Contrast } normal
   Brightness }
2. Position neck assy as shown in Fig 5-1.
3. Set the pattern generator raster signal to a green raster.
4. Move the deflection yoke to the rear and adjust with the purity control so that the green is at the center and the blue and the red take up equally sized areas on each side. (See Figures 5-1 through 5-3.)
5. Move the deflection yoke forward and adjust so that the entire screen is green. (See Figure 5-2.)
6. Switch the raster signal to blue, then to red and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws and DY spacers.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Figure 5-4.)

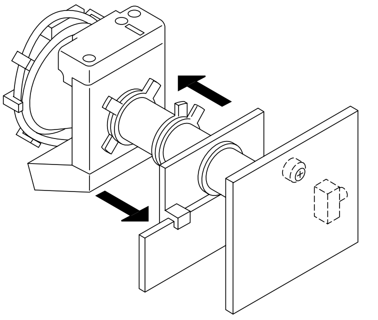


Fig. 5-2

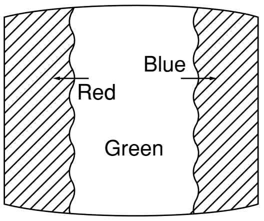


Fig. 5-3

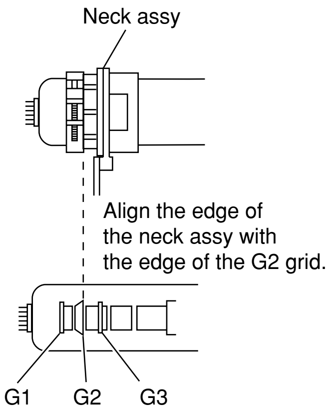


Fig. 5-1

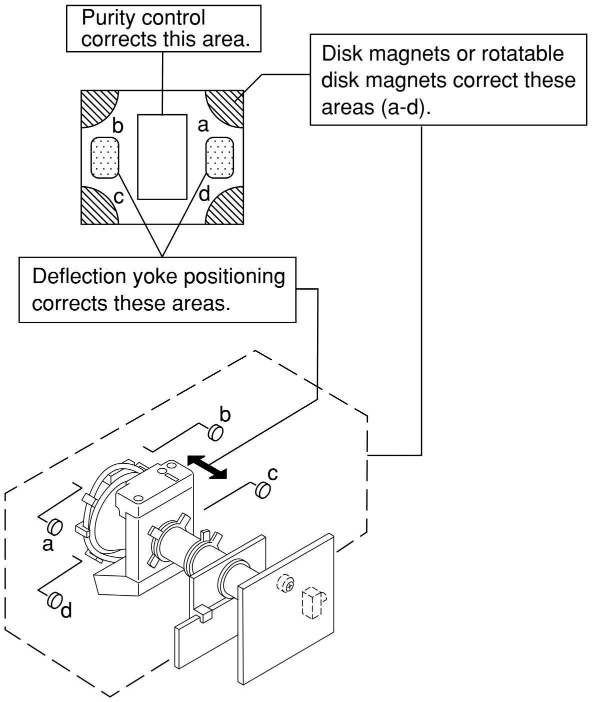


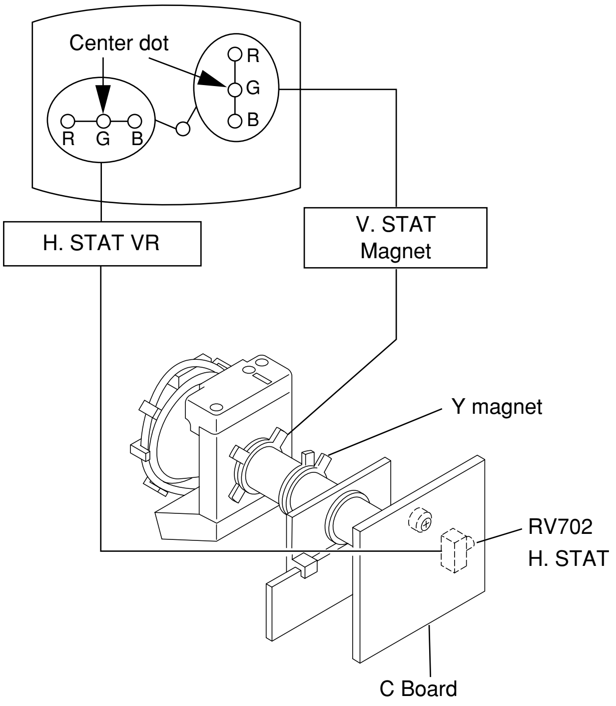
Fig. 5-4

5-2. CONVERGENCE ADJUSTMENT

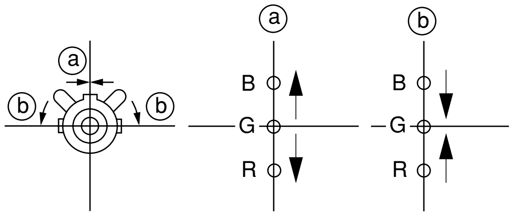
Preparation :

- Before starting this adjustment, adjust the focus, horizontal size and vertical size.
- Receive cross hatch/dot pattern and set picture mode to "STANDARD".

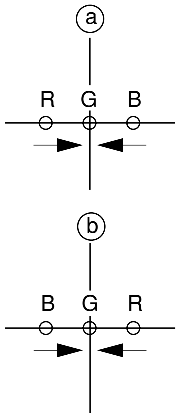
(1) Horizontal and Vertical Static Convergence



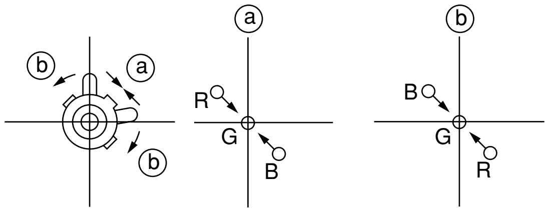
① V. STAT



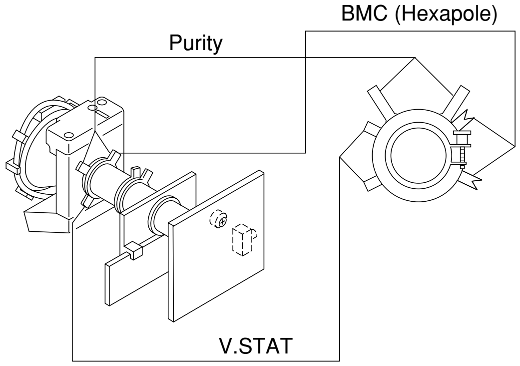
② H. STAT VR



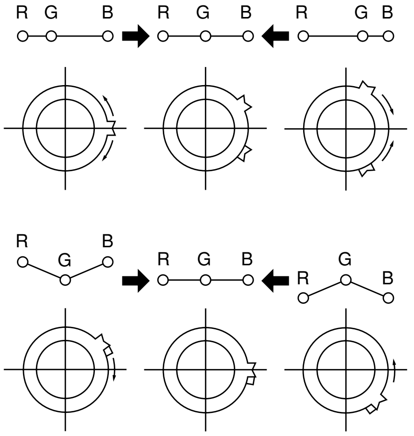
③



1. (Moving horizontally), adjust the H.STAT control so that the red, green and blue dots are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green and blue dots are on top of each other at the center of the screen.
3. Adjust Horizontal Trapezoid with "GEO 11 HTR" in Service Mode to make H-Trapezoid distortion best.
4. If the H.STAT variable resistor cannot bring the red, green and blue dots together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other, so be sure to perform adjustments while tracking.)

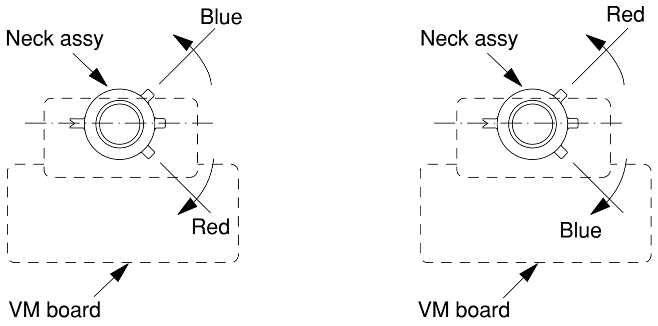


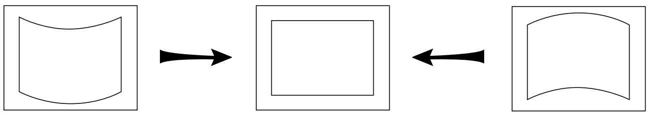
④ BMC (Hexapole) Magnet.
If the red, green and blue dots are not balanced or aligned, then use the BMC magnet to adjust in the manner described below.



⑤ Y separation axis correction magnet adjustment.

1. Receive the cross-hatch signal and adjust [PICTURE] to [MIN] and [BRIGHTNESS] to [STANDARD] .
2. Adjust the Y separation axis correction magnet on the neck assembly so that the horizontal lines at the top and bottom of the screen are straight.





Note

1. The Red and Blue magnets should be equally far from the horizontal center line.
2. Do not separate the Red and Blue magnets too far. (Less than 8 mm)

(2) Dynamic Convergence Adjustment

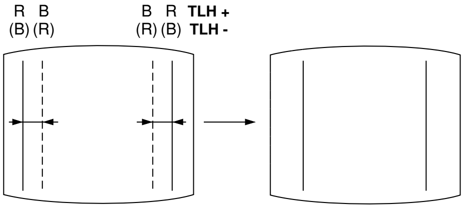
Preparation:

- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence
- Set the PICTURE and BRIGHTNESS to normal.

1. Adjust TLH. (TLH convergence piece)

① Receive the dot/hatch pattern signal and adjust picture quality by the menu.

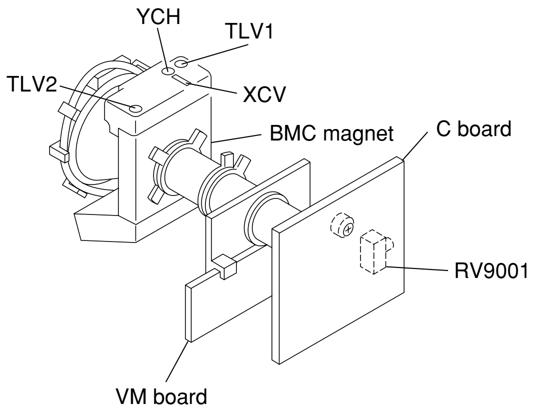
② Correct horizontal mis-convergence of red and blue of both sides on the X axis.
When red is outside insert TLH convergence piece to right side (TLH +) views from DY neck. And when blue is outside, insert it to left side (TLH –) and take both sides.



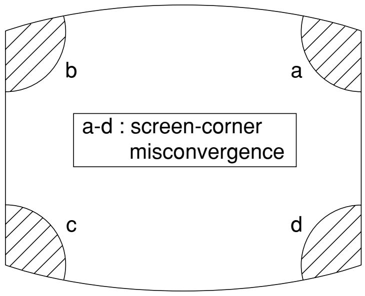
2. Adjust XCV core.
To able to become balance of XCV on the X axis well.

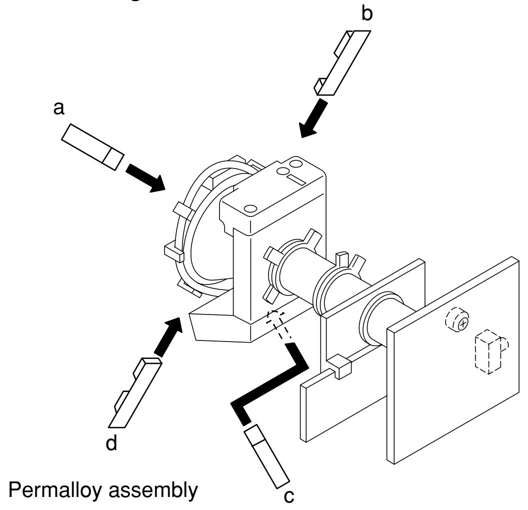
3. Adjust V-TILT.
Correct the vertical mis-convergence of red and blue of vertically sides on the Y axis.

4. Adjust YCH.
Adjust horizontal mis-convergence of red and blue of vertically sides on the Y axis. Mentioned above steps 2 to 4 are adjusting respectively perform minuteness tracking.



(3) Screen-corner Convergence



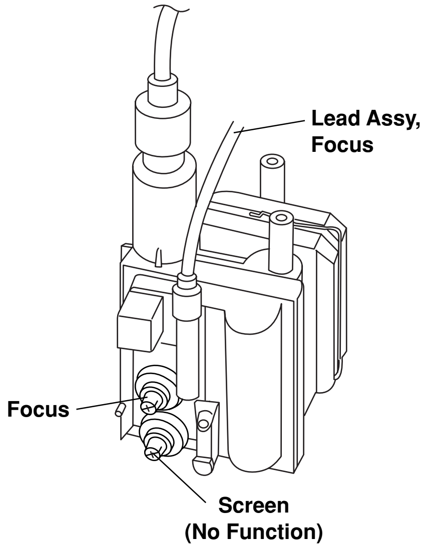


5-3. FOCUS ADJUSTMENT

Note

Focus adjustment should be completed before W/B adjustment.

(1) Receive digital monoscope pattern.
(2) Set "A/V CONTROL" to "STANDARD".
(3) Adjust FOCUS VR so that the center of the screen becomes just focus.
(4) Change the receiving signal to white pattern and blue back.
(5) Confirm MAGENTA RING is not noticeable. In case MAGENTA RING is obvious, adjust FOCUS VR to balance between MAGENTA RING and FOCUS adjustment.



FLYBACK TRANSFORMER (T6803)

5-4. NECK ASSY TWIST ADJUSTMENT

(1) Receive dot/hatch pattern DRC-MF, DRC1250, DYNAMIC.
(2) Turn FOCUS VR fully counter-clockwise.
(3) Confirm the dot shape at the screen center. (Fig. 5-4)
(4) Resume FOCUS VR.

Note

In case of turning NECK ASSY, loosen the screw 3 turns. Do not move the position.

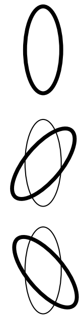
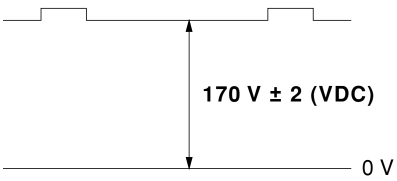


Fig. 5-4

5-5. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENT

1. G2 (SCREEN) ADJUSTMENT

1) Set the PICTURE and BRIGHTNESS to normal.
2) Put to VIDEO input mode without signals.
3) Connect R, G and B of the C board cathode to the oscilloscope.
4) Adjust BRIGHTNESS to obtain the cathode voltage to the value below.
5) Whilst watching the picture, adjust the screen VR [RV9002] located on the C board to the point just before the retrace lines disappear (to the point before cut-off)



2. WHITE BALANCE ADJUSTMENT

1) Set to Service Mode (Refer Section 6-1: ADJUSTMENTS WITH COMMANDER).
2) Input white raster signal.
3) Set the following condition.
   PICTURE minimum, BRIGHTNESS 50%
4) Select GCT (WHB 08) and BCT (WHB 09) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
5) Set the PICTURE to maximum.
6) Select GDR (WHB 05) and BDR (WHB 06) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
7) Write into the memory by pressing [MUTING] then [0].

SECTION 6
CIRCUIT ADJUSTMENTS

6-1. ADJUSTMENTS WITH COMMANDER

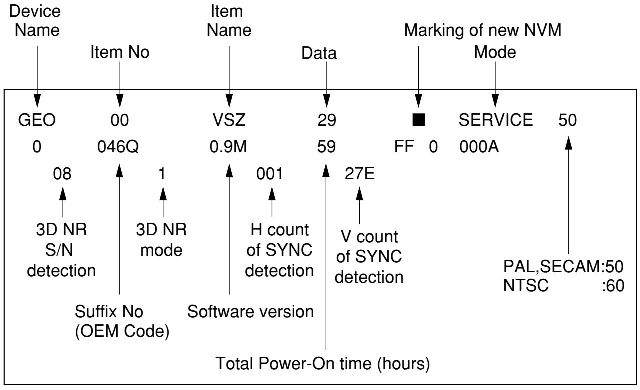
Service adjustments to this model can be performed using the supplied Remote Commander RM-991.

a. ENTERING SERVICE MODE

With the unit on standby

→ [DISPLAY] → [5] → [VOL (+)] → [POWER]

The screen display is :



b. CANCELLATION OF SERVICE MODE

Set the standby condition (Press [POWER] button on the commander), then press [POWER] button again, hereupon it becomes TV mode.

c. METHOD OF WRITE INTO MEMORY

1) Set to Service Mode.
2) Press [1] (UP) and [4] (DOWN), to select the adjustment item Name.
3) Press [3] or [6] to raise/lower the data value.
4) Press [MUTING] button to indicate WRITE on the screen.
5) Press [0] button to write into memory.

d. OTHER FUNCTION VIA REMOTE COMMANDER

[7], [0]	All the data becomes the values in memory.
[8], [0]	All goes to the standard state.
[5], [0]	Service data initialization (Be sure not to use usually.)
[DISPLAY], [0]	Write 50Hz adjustment data to 60Hz, or vice versa.
[2], [0]	Copy and write all data.
[Cursor +/–]	Skip category (device) to category (device)

example : GEO 00 VSZ
↕
DAC 00 HCT

e. MEMORY WRITE CONFIRMATION METHOD

1) After adjustment, pull out the plug from AC outlet, and then plug into AC outlet again.
2) Turn the power switch ON and set to Service Mode.
3) Call the adjusted items again to confirm adjustments were made.

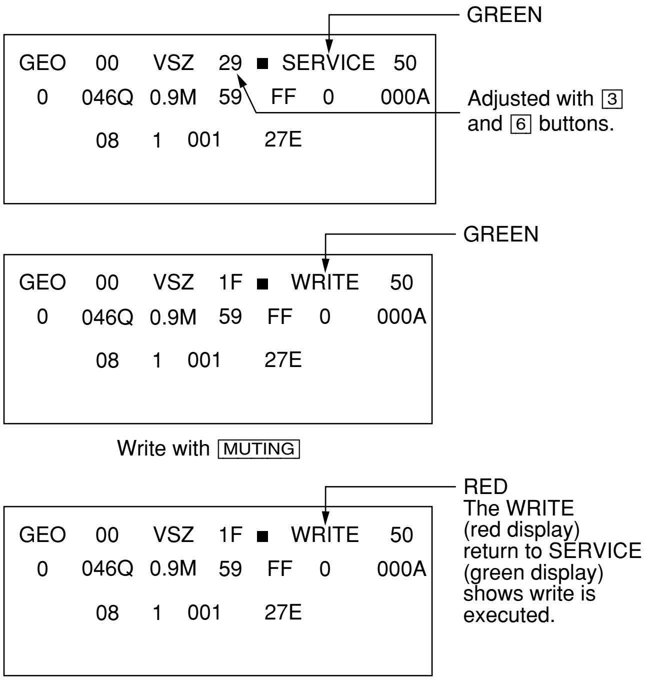
6-2. ADJUSTMENT METHOD

Item Number 00 of device GEO

This explanation uses V-size as an example.

1. Select "GEO 00 VSZ" with the [1] and [4] buttons.
2. Raise/lower the data with the [3] and [6] buttons.
3. Select the optimum state. (The standard is 1F for PAL reception.)
4. Press [MUTING] button to indicateWRITE on screen. (The display from SERVICE (green display) to WRITE (green display).
5. Execute the writing with the [0] button. (The WRITE display changes to red color while executing and then back to SERVICE (green display).
6. The WRITE execution is completed.

Example on screen display :-



Write executed with [0]

Use the same method for all Items.

Note : 1. In [WRITE], the data for all items are written into memory together.
2. For adjustment items that have different standard data between 50Hz or 60Hz, be sure to use the respective input signal after adjustment.

Adjustment Item Table

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)							
Category	No	Name						50NC	60NC	50VC	60VC	PROG50 NC	PROG60 NC	PROG50 VC	PROG60 VC
GEO	00	VSZ	21	3F	V Size	50/60*VC/NC	CXA2150AQ	1F	22	1F	22				
	01	VPS	27	3F	V position	50/60*VC/NC		1F	1D	1F	1D				
	02	VLN	5	0F	V Linearity	50/60*VC/NC		07	07	07	07				
	03	SCO	0A	0F	S Correction	50/60*VC/NC		09	09	09	09				
	04	HSZ	1E	3F	H Size	50/60*VC/NC		1D	19	1F	19				
	05	HPS	2F	3F	H Position	50/60/DVDProg 50/DVDProg 60*VC/NC		1A	11	17	0F	12	0A	12	0A
	06	PAP	28	3F	Pin Amp	50/60*VC/NC		15	16	18	1A				
	07	UPN	25	3F	Upper Corner Pin	50/60*VC/NC		25	27	2A	30				
	08	LPN	23	3F	Lower Corner Pin	50/60*VC/NC		26	26	25	29				
	09	UCG	0	3	Most Upper Corner Pin Adjustment	50/60*VC/NC		01	01	02	02				
	0A	LCG	1	3	Most Lower Corner Pin Adjustment	50/60*VC/NC		01	01	02	01				
	0B	UCP	2	3	Most Upper Corner Pin Correction Position Setting	50/60*VC/NC		02	01	01	01				
	0C	LCP	2	3	Most Lower Corner Pin Correction Position Setting	50/60*VC/NC		02	02	01	01				
	0D	POL	0	1	Most Upper/Lower Pin Polarity	50/60*VC/NC		00	00	00	00				
	0E	PPH	24	3F	V Trapezoid Adjustment	FF/R4/PR*50/60*VC/NC		25	25	29	29				
	0F	AGL	0A	0F	AFC Angle	50/60*VC/NC		19	19	1A	1A				
	10	BOW	6	0F	AFC Bow	50/60*VC/NC		1E	1D	21	1E				
	11	HTR	0F	1F	V SawO Wave Saw Level Gain Control	FF/R4/PR*50/60*VC/NC		08	08	08	08				
	12	MPD	4	0F	MP Para Wave DC Bias Control	FF/R4/PR*50/60*VC/NC		07	07	07	07				
	13	MPA	0E	0F	MP Para Wave Gain Control	FF/R4/PR*50/60*VC/NC		06	06	06	06				
	14	PBP	1F	3F	H Cent Para Wave Saw Level Gain Control	FF/R4/PR*50/60*VC/NC		27	29	27	29				
	15	PBA	0F	1F	H Cent Para Wave Gain Control	FF/R4/PR*50/60*VC/NC		10	0E	10	11				
	16	HBS	1	1	H Blk ON/OFF SW	FF/R4/PR*50/60*VC/NC		01	01	01	01				
	17	HBL	37	3F	Left H Blk Position Control	50/60/DVDProg 50/DVDProg 60*VC/NC		17	23	17	23	1C	27	1C	27
	18	HBR	2C	3F	Right H Blk Position Control	50/60/DVDProg 50/DVDProg 60*VC/NC		24	26	24	26	29	2B	29	2B
	19	PCP	0	7	Pin Amp HV Distortion Correction Setting	FF/R4/PR*50/60*VC/NC		00	00	00	00				
	1A	ACP	1	7	H Position HV Distortion Correction Setting	FF/R4/PR*50/60*VC/NC		00	00	00	00				
	1B	VCP	8	3	Vertical HV Distortion Correction Setting	50/60*VC/NC		0C	0C	0C	0C				
	1C	HCP	2	3	H Size HV Distortion Correction Setting	50/60*VC/NC		0A	0A	0A	0A				
	1D	USC	0	1	Ref Pulse Jump Mode ON/OFF	FF/R4/PR*50/60*VC/NC		00	00	01	01				
	1E	VAS	2F	3F	V Aspect Control	50/60*VC/NC		2F	2F	32	31				
	1F	VSC	1F	3F	V Scroll Control	50/60*VC/NC		1F	1F	1E	1E				
	20	VBU	7	1	V Blk Top Position Control	FF/R4/PR*50/60*VC/NC		04	09	0E	0C				
	21	VBL	7	1	V Blk Bottom Position Control	FF/R4/PR*50/60*VC/NC		00	09	0C	0F				
	22	AKB	0F	1F	AKB Bch Ref Pulse Timing Setting	50/60*VC/NC		1C	0F	1C	17				
	23	VDS	1	1	Bch REF Pulse Jump ON/OFF Sw	FF/R4/PR*50/60*VC/NC		00	00	00	00				
	24	RST	0	1	Retrace Of V Drive Start Position Setting	FF/R4/PR*50/60*VC/NC		00	00	00	00				
	25	CPY	0	1	Copy the GEO data to all 50/60Hz NVM area										

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)						
Category	No	Name						Common	50	60	EcoOnNC	EcoOffNC	EcoOnVC	EcoOffVC
DAC	00	HCT	33	7F	H Center	50/60Hz	CXA1875		40	40				
	01	HLN	27	3F	H Linearity	50/60Hz			20	20				
	02	QDH	1F	3F	DF Phase	50/60Hz			83	83				
	03	HTS	BB	FF	H Trapezoid Start Data Setting	no table		C9						
	04	HTO	0E	FF	H Trapezoid Offset Data Setting	no table		0E						
	05	NSS	7F	FF	NS Start Data	no table		7E						
	06	NSO	09	FF	NS Offset Data	no table		08						
	07	ABC	0	FF	ABL D/A Control	ECO on/off*VC/NC					00	00	00	00
	08	CPY	0	1	Copy the DAC data to all 50/60Hz NVM area									

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Common
Common	No	Name						
WHB	00	YOS	7	0F	DC Offset Canceller for Y signal		CXA2150AQ	07
	01	UOS	1F	3F	DC Offset Canceller for Cb1			1F
	02	VOS	1F	3F	DC Offset Canceller for Cr1			1F
	03	SBR	1F	3F	Sub Brightness Control			1F
	04	RDR	29	3F	R Drive			29
	05	GDR	24	3F	G Drive			24
	06	BDR	25	3F	B Drive			25
	07	RCT	29	3F	R Cutoff			29
	08	GCT	10	3F	G Cutoff			10
	09	BCT	25	3F	B Cutoff			25
	0A	SBO	20	3F	Sub Brightess Offset	Picture Mode except Dynamic		20
	0B	RDO	1F	3F	R Drive Offset	Picture Mode except Dynamic		1F
	0C	GDO	19	3F	G Drive Offset	Picture Mode except Dynamic		19
	0D	BDO	1B	3F	B Drive Offset	Picture Mode except Dynamic		1B
	0E	RCO	1F	3F	R Cutoff Offset	Picture Mode except Dynamic		1F
	0F	GCO	29	3F	G Cutoff Offset	Picture Mode except Dynamic		29
	10	BCO	1A	3F	B Cutoff Offset	Picture Mode except Dynamic		1A

TVG Category	Functionality No	Functionality Name	Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed) EcoOnNC	EcoOffNC	EcoOnVC	EcoOffVC	50	60	Dynamic	Standard-/Drama	Hi-Fine/-Soft	Personal
SAJ	00	PIC	3F	3F	Picture Control	Picture Mode except Personal	CXA2150AQ							3F	33	28	
	01	BRT	1F	3F	Brightness Control	Picture Mode except Personal								23	1F	1B	
	02	COL	27	3F	Color Control	Picture Mode except Personal								2E	1F	1F	
	03	HUE	1F	3F	Hue Control	Picture Mode except Personal								1F	1F	1F	
	04	SHP	24	3F	Sharpness Control	Picture Mode except Personal								22	1F	1D	
	05	VML	3	3	VM Level	Picture Mode								03	03	01	03
	06	DYC	1	1	Dynamic Color on/off	Picture Mode								01	01	00	01
	07	WBS	0	0	WB Switch	Picture Mode								00	00	00	00
	08	CAX	2	3	Color Matrix Specification	50/60Hz						01	03				
	09	GMA	3	3	Gamma Correction	Picture Mode								02	02	00	01
	0A	DCT	1	3	DC Transmission Control	Picture Mode								02	02	01	02
	0B	DPL	1	3	Auto Pedestal Level Control	Picture Mode								02	02	00	02
	0C	ABM	0	3	ABL Mode Control	Picture Mode								01	00	00	00
	0D	ABT	0	3	ABL Current detection Vth Control	ECO on/off*VC/NC		05	00	0C	07						

TVG Category	Functionality No	Functionality Name	Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed) Common	EcoOnNC	EcoOffNC	EcoOnVC	EcoOffVC	50TV	50Video	50DVD	60TV	60Video	60DVD	DVDPR-OG50	DVDPR-OG60
SAJ	OE	CLO	9	0F	Color Offset	50/60*TV/Video/DVDProg50/60	CXA2150AQ						06	08		09	09		04	04
	OF	CLW	3	7	Color Step Width to the Change of S/N			03												
	10	HUO	9	0F	Hue Offset	50/60*TV/Video/DVDProg50/60							05	03		07	06		04	05
	11	SHO	7	1F	Sharpness Offset	50/60*TV/Video/DVDProg50/60							10	14	06	12	0F	06	1A	1A
	12	SHW	1	7	Sharpness Step Width to the Change of S/N			01												
	13	BRO	7	0F	Brightness Offset	ECO on/off*VC/NC			07	07	07	07								

TVG Category	Functionality No	Functionality Name	Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed) Common	DVD PROG	50NC	60NC	50VC	60VC	DRC 100 NC	DRC 100 VC	DRC 120 NC	DRC 120 VC
JGL	00	PON	1	1	RGB and AKB Reference Pulse Output On/Off		CXA2150AQ	01									
	01	RGB	7	7	RGB Output Selection			07									
	02	AGG	0	3	Aging Mode Selection			00									
	03	BBT	3	3	RGB Bottom Limitter Control			03									
	04	LML	0	3	RGB Amplitude Limitter Control			00									
	05	PAB	0F	0F	DC Level for Peak ABL			0F									
	06	SAB	0	3	S ABL gain Setting	50/60/DVDProg50/DVDProg60*VC/NC				00	00	00	00	00	00	00	00
	07	SCO	7	0F	Sub Picture Control			07									
	08	LV2	5	0F	RGB Level for RGB2			05									
	09	GML	0	1	Gamma Differential Correction ON/OFF			00	00								

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)										
Category	No	Name						Common	50TV	50Video	50DVD	60TV	60Video	60DVD	Dynamic	Standard-/Drama	Hi-Fine/-Soft	Personal
JGL	OA	SYS	2	3	Signal Band Selection	50/60*TV/Video/DVD	CXA2150AQ		01	02	01	02	02	01				
	OB	SF0	1	1	Sharpness f0 Setting	50/60*TV/Video/DVD			01	01	01	01	01	01				
	OC	SF1	3	3	High f0 Sharpness Gain Control	50/60*TV/Video/DVD			03	03	03	03	03	03				
	OD	CDS	0	3	Sharpness Gain Control in High Color Saturation			00										
	OE	CDF	0	1	SHP CD ON/OFF			00										
	OF	PRO	3	3	Pre/Over-Shoot Ratio Control	50/60*TV/Video/DVD			03	03	03	03	03	03				
	10	LTI	3	3	Luminance Transient Improvement	Picture Mode									03	02	00	00

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)						
Category	No	Name						Common	DVD PROG	Dynamic	Standard-/Drama	Hi-Fine/-Soft	Personal	Dyna bsw
JGL	11	LTM	0	3	LTI Mode Setting		CXA2150AQ	00						
	12	CTI	0	3	Chrominance Transient Improvement	Picture Mode				00	00	00	00	
	13	CTM	0	3	CTI Mode Setting			00						
	14	VDL	3	3	VM OUT Phase Control			03						
	15	VCR	0	3	VM OUT Coring Level Setting			00						
	16	VFO	0	3	VM OUT F0 Setting			00						
	17	VLM	0	3	VM OUT Limiter Level Setting			00						
	18	AFC	1	3	AFC Loop Gain Control	Common/DVD Progressive		02	01					

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)		
Category	No	Name						Common	TV	Video
DRC	00	MOD	0	3	DRC Mode (For Evaluation Only) 00 - Normal, 01 - Forced 1250i, 02 - Forced Progressive, 03 - Forced Simple Progressive					

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)		
Category	No	Name						Common	TV	Video
PIP	00	PRO	0	1	Progressive Scan Mode Enable		SDA9489X	00		
	01	RED	0	1	Read Double Mode			00		
	02	FEI	0	3	Field Select			00		
	03	HPS	33	FF	Horizontal Picture Position			33		
	04	VPS	1B	FF	Vertical Picture Position			1B		
	05	HFP	8	0F	Horizontal Fine Positioning			08		
	06	VFP	0	0F	Vertical Fine Positioning			00		
	07	DIS	0	3	Display Standard			00		
	08	HOS	0	3	Horizontal Size			00		
	09	VES	0	3	Vertical Size			00		
	0A	FPS	0	3	Force Parent Standard			00		
	0B	HZM	0	7	Horizontal Zoom			00		
	0C	VSP	1	1	Vertical Sync Pulse Noise Reduction			01		
	0D	VDL	0	1F	Vertical Sync Pulse Delay			00		
	0E	FRH	5	7	Frame Width Horizontal			05		
	0F	FWV	2	3	Frame Width Vertical			02		
	10	VRD	0	1	Reduction			00		
	11	VBK	0	1	Vertical Blanking			00		
	12	DLY	1	F	Select Delay			01		
	13	PCR	0	1	Position Correction			00		
	14	AGM	3	3	AGC Mode			03		
	15	AGC	9	F	Automatic Gain Control Value			09		
	16	CVB	0	3	CVBS Select			00		
	17	CPD	1	3	CLAMPING Duration			01		
	18	CPT	1	3	CLAMPING Pulse Start			01		
	19	LUM	0	3	Luminance Offset			00		
	1A	PLL	0	3	Insert PLL Time constant	TV/Video			00	00
	1B	YCD	8	F	Y/C Delay			08		
	1C	NSR	0	3	Nosie Reduction for inset Pll	TV/Video			02	00
	1D	LSP	0	1	Standard Identification Speed			00		
	1E	KIL	2	3	Color Killer Treshold			02		
	1F	BGP	1	1	Burst Gate Position			01		

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)		
Category	No	Name						Common	TV	Video
PIP	20	SEC	1	1	SECAM Identification level			01		
	21	DEM	1	3	Deemphase Selection			01		
	22	CMA	0	3	Chroma Bandwith			00		
	23	IFC	2	3	IF Compensation Filter			02		
	24	HUE	0	1F	Hue			02		
	25	SCA	6	1F	Color Subcarrier Adjustment			06		
	26	CON	0	F	Contrast Adjustment			00		
	27	BLR	0	F	Blanking Level Red Channel			00		
	28	BRT	0	F	Brightness Adjustment			03		
	29	BLG	0	F	Blanking Level Green Channel			00		
	2A	BIR	0	1	Blanking Inversion Red Channel			00		
	2B	BIB	0	1	Blanking Inversion Blue Channel			00		
	2C	BLB	0	F	Blanking Level Blue Channel			00		
	2D	INT	0	1	Refresh Intervall			00		
	2E	PKR	85	FF	Peak Level Red Channel			85		
	2F	PKG	85	FF	Peak Level Green Channel			85		
	30	PKB	85	FF	Peak Level Blue Channel			85		
	31	FRY	9	F	Frame Color Y			09		
	32	OUT	1	1	Output Format			01		
	33	FRU	0	F	Frame Color U			00		
	34	FRV	0	F	Frame Color V			00		
	35	SAT	7	F	Color Saturation Adjustment			07		
	36	YPK	3	7	Y Peak Adjustment			03		
	37	YCO	0	F	Y Coring Enable			00		
	38	PAL	3	3	PAL ID Level			03		
	39	POV	0	7	Position Offset Vertical			00		
	3A	POH	0	1F	Position Offset Horizontal			00		
	3B	VSH	0	1F	Vertical Shrink			00		
	3C	HSH	0	1F	H Shrink			00		
	3D	CPL	1	3	CLAMPING Pulse Length			01		

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)								
Category	No	Name						Common	TV	Video	50TV	50Video	50DVD	60TV	60Video	60DVD
YCT	00	TNT	20	3F	Tint Adjustment for NTSC	TV/Video	CXA2163AQ		1F	1F						
	01	PNG	1	1	PAL/NTSC Gate Width			01								
	02	PNI	0	1	PAL/NTSC Sensitivity SW			00								
	03	SCL	5	0F	Sub Color Control	50/60*TV/Video					05	06		05	06	
	04	SCT	7	0F	Sub Contrast Control	50/60*TV/Video					07	07		07	07	
	05	SF0	2	3	Sharpness Center Ferquency Changing			02								
	06	SEQ	3	3	Sharpness Equalizer Characteristic			03								
	07	SHG	7	0F	Sharpness Gain Control	50/60*TV/Video/DVD					06	07	06	06	08	06
	08	YOL	1F	3F	Y-Output Level Control			1E								
	09	BSP	0	3	Black Stretch Start Point Changing			00								
	0A	COL	10	3F	Cb/Cr Output Level Control			13								
	0B	DCR	0	3	DC Restoration Ratio Adjustment			00								
	0C	BF0	1	3	BPF/TQF F0 Adjustment			01								
	0D	BFQ	2	3	BPF/TQF Q Adjustment			02								
	0E	FSW	1	1	BPF/TQF Switch			01								
	0F	SDT	1	1	SECAM Double Trap Switch			01								
	10	LPF	1	1	Y/Cb/Cr LPF Switch			01								

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)						
Category	No	Name						Common	Multi Comb	3DComb	S-Input	Others	Video	DVD
YCT	11	YDL	6	0F	Y-DL Time Adjustment	2Dcomb/3Dcomb/S-input/others			06	06	06	06		
	12	BO1	7	0F	Cb Offset1 Adjustment (main route)			07						
	13	RO1	7	0F	Cr Offset1 Adjustment			07						
	14	CDF	0	7	V Count Down Frequency Switch	forced 50Hz for no signal		00						
	15	CDM	0	3	V Count Down Judge Switch			00						
	16	AFC	0	3	AFC Sensitivity Switch	(TV/)Video/DVD							00	00
	17	MVM	1	1	Macrovision Mask + AFC Mask			01						
	18	SRY	7	0F	SECAM R-Y Black Adjustment			07						
	19	SBY	1	0F	SECAM B-Y Black Adjustment			01						
	1A	BEL	2	3	SECAM BELL/HPF Switching			02						
	1B	BLF	0	1	BELL f0 Adjustment			00						
	1C	SVI	0	1	SECAM V-ID Switch			00						
	1D	SGP	0	3	SECAM Gate Position Adjustment			00						
	1E	SID	1	1	SECAM Sensitivity Switch	except SECAM		01						
	1F	SIH	0	1	SECAM Inhibition Switch			00						
	20	STP	0	1	Y Black Level Setup for PAL Plus			00						
	21	3NR	1	1	3D NR Operation On/Off			01						
	22	BW6	1	1	3D NR for 60Hz Non-Bust Signal On/Off			01						
	23	WSH	0	3	Sharpness Gain Step for Noise Reduction			00						
	24	WCO	0	3	Cb/Cr Output Level Step for Noise Reduction			00						

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Common
Category	No	Name						
SYN	00	MAT	1	3	Select Type of Matrix Conversion		CXA2151	00
	01	VFR	1	1	Select Frequency of Dummy Sync Output			01
	02	VTC	3	3	Sets the V Sync Separation Time Constant			03
	03	HWD	0	3	Sets the SELH_OUT Output Pulse Width			00
	04	HSL	0	1	Sets the Sync Separation Method			00
	05	HTC	0	1	Sets the H Sync Separation Time Constant of YG IN input			00
	06	HMA	1	1	Sets Whether or not to add Hsync Within Vsync at SELH OUT			01
	07	MAC	1	1	Switch for Eliminating the Macrovision signal of the 525P Signal			01
	08	GSL	1	3	Selects the Gain or Mute of the Signal Output to SELCR OUT			01
	09	CBG	7	0F	SELCB OUT Gain Control			07
	0A	CRG	7	0F	SELCR OUT Gain Control			07
	0B	YG	7	0F	SELY OUT Gain Control			07
	0C	HFR	1	3	Select the Frequency of the Dummy Sync Output to SELH OUT			01

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)						
Category	No	Name						Common	Dynamic	Standard/-Drama	Hi-Fine/-Soft	Dyna bsw	Drama bsw	Soft bsw
AP2	00	BBS	3	0F	Bass Boost Setting		NJW1139	03						
	01	BCB	0	1	Boost/Cut Sub-Bass			00						
	02	SBS	0	3	Sub-Bass Setting			00						
	03	BCT	0	1	Boost/Cut Sub-Treble			00						
	04	STS	0	3	Sub-Treble Setting			00						
	05	AGL	0	3	AGC Level Setting			00						
	06	BSW	0	1	Bass Boost Switch			00						
	07	BAS	14	1F	Bass Sound mode Control	S. Mode but personal with BBS ON/OFF			14	10	10	12	01	01
	08	TRE	16	1F	Treble Sound mode Control	S. Mode but personal with BBS ON/OFF			16	16	10	16	16	10
	09	BBE	48	FF	BBE Sound mode Control	S. Mode but personal with BBS ON/OFF			47	39	00	47	39	00

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Common
Category	No	Name						
MSP	00	WST	15	FF	W/G Stereo Threshold		MSP3415D	15
	01	WBT	EC	FF	W/G Bilingual Threshold			EC
	02	WLL	5	FF	W/G Monaural Threshold			05
	03	WAC	1	0F	W/G Agreement Count			01
	04	WDL	30	FF	W/G Search Delay			30
	05	NDL	20	FF	NICAM Search Delay			20
	06	SDL	10	FF	Stereo Status Read Delay			10
	07	AGC	1	1	AGC Switch Auto/Constant			01
	08	REL	28	3F	AGC Gain at Constant Mode			28
	09	CRM	0	1	Carrier Muting On/Off			00
	0A	ACO	1	1	Audio Clock Out On/Off			01
	0B	FP	1B	7F	FM Prescale for Non-M System			1B
	0C	FPM	32	7F	FM Prescale for M system			32
	0D	FH	36	7F	FM prescale for HDEV			36
	0E	FHM	65	7F	FM prescale for HDEV and M			65
	0F	WGP	1C	7F	W/G Prescale			1C
	10	NIP	7F	7F	NICAM Prescale			7F
	11	ERR	50	FF	Auto FM Switch Threshold			50

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)					
Category	No	Name						Common	Dynamic	Standard-/Drama	Hi-Fine/-Soft	Personal	
LTI	00	LDH	1	1	Histogram segment Selection		TDA9178	01					
	01	CFS	1	1	Contour Filter Selection			01					
	02	WLB	0	1	Letterbox Window Switch			00					
	03	VDC	1	1	Video Dependent Coring	Picture Mode			01	01	01	01	
	04	DEM	0	1	Demonstration Mode			00					
	05	CDP	4	07	Luminance Delay			04					
	06	OSP	0	1	Overrule Smart Peaking			00					
	07	WPO	0	1	White Point Stretch Off			00					
	08	DSK	0	1	Skin Tone Switch	Picture Mode			00	00	00	00	
	09	ASK	0	1	Skin Tone Angle Selection			00					
	0A	WSK	0	1	Skin Tone Width Selection			00					
	0B	SSK	0	1	Skin Tone Size Selection			00					
	0C	DGR	1	1	Green Enhancement Switch	Picture Mode			01	01	00	01	(except KV-DR29M39)
									00	00	00	00	(only KV-DR29M39)
	0D	DGT	7	7	Threshold of Green Enhancement Switch			07					
	0E	GGR	0	1	Green Enhancement Gain			00					
	0F	WGR	0	1	Green Enhancement Width			00					
	10	SGR	0	1	Green Enhancement Size			00					
	11	DBL	0	1	Blue Stretch Switch			00					
	12	GBL	0	1	Blue Stretch Gain Selection			00					
	13	SBL	0	1	Blue Stretch Size Selection			00					
	14	CDS	1	1	Color Dependent Sharpness	Picture Mode			01	01	00	01	
	15	CST	7	7	Threshold of Color Dependent Sharpness			07					
	16	CTI	1	1	Color Transient Improvement	Picture Mode			01	01	00	00	
	17	BON	0	1	Black Offset Compensation	Picture Mode			00	00	00	00	
	18	BTD	0	3F	Adaptive Black Strecth	Picture Mode			00	00	00	00	
	19	NLD	15	3F	Non-Linearity Amplifier	Picture Mode			15	15	00	15	

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)						
Category	No	Name						Common	TV	Video	Dynamic	Standar-d/Drama	Hi-Fine/-Soft	Personal
LTI	1A	NLW	7	7	Step Width of Non-Linearity Amplifier			07						
	1B	VGD	1F	3F	Variable Gamma	Picture Mode					1F	1F	1F	1F
	1C	VGW	0	7	Step Width of Variable Gamma			00						
	1D	PKD	3F	3F	Peaking Amplitude	Picture Mode					3F	2B	0E	2B
	1E	PKW	8	0F	Step Width of Peaking Amplitude			08						
	1F	SPD	0	3F	Steepness Correction	Picture Mode					00	00	00	00
	20	CRD	1B	3F	Coring Level	Picture Mode					1B	1B	00	1B
	21	CRW	9	0F	Step Width of Coring Level			09						
	22	CRO	6	0F	Coring Level Offset for Video Mode			06						
	23	LWD	1F	3F	Line Width Correction			1F						
	24	SNM	0	7	S/N Mode Under Unreliable S/N Condition			00						
	25	SNC	3	0F	S/N Ratio Average Counter	TV/Video			03	03				
	26	FMC	2	0F	Feature Mode Matching Counter			02						

TVG Category	Functionality No	Functionality Name	Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed) Common	TV	Video	NRmode0	NRmode1	NRmode2	NRmode3	Dynamic	Standard-/Drama	Hi-Fine/-Soft	Personal
3CM	00	NRM	0	3	Noise Reduction Operation Mode		UPD64083	00										
	01	YCO	0E	0F	Y/C Signal Output Selection			0D										
	02	SYC	1	3	System Clock Selection			01										
	03	STD	0	3	Standard/Non-Standard Operation Selection			00										
	04	MSS	0	3	Inter-Frame/Inter-Line Operation Selection			00										
	05	KIL	3	3	Killer/Non-Killer Operation Selection			03										
	06	ECS	1	3	External C-Sync Input Selection			01										
	07	CPP	2	3	ADC Input Level & Clump Pulse Width Selection			00										
	08	HDP	5	7	Horizontal Phase Adjustment			05										
	09	CDL	4	7	C-Signal Delay Adjustment			04										
	0A	DYC	2	0F	DY Delection Coring Level Adjustment	NR Mode (0-3)					02	02	02	04				
	0B	DYG	0A	0F	DY Delection Gain Ajustment	NR Mode (0-3)					0A	0A	0A	0A				
	0C	DCC	5	0F	DC Detection Coring Level Adjustment	NR Mode (0-3)					05	03	03	05				
	0D	DCG	5	0F	DC Detection Gain Adjustment	NR Mode (0-3)					05	0A	0A	05				
	0E	YNR	1	0F	YNR Non-Linear Filter Setup			01										
	0F	CNR	1	0F	CNR Non-Linear Filter Setup			01										
	10	WSC	1	3	Noise Detectin Coring Adjustment			01										
	11	VTH	1	3	Hysteresis Selection for H-Sync Non-Standard	TV/Video			01	01								
	12	VTR	1	3	Sensitivity Selection for H-Sync Non-Standard	TV/Video			01	01								
	13	LDR	2	3	Sensitivity Selection for Frame-Sync Non-Standard	TV/Video			02	01								
	14	VAP	3	7	Gain Adjustment for Vertical Shape Correction	Picture Mode									03	00	00	00
	15	VAI	0C	1F	Vanishing Adjustment for Vertical Shape Correction	Picture Mode									0C	00	00	00
	16	YPF	3	3	Center Frequency Selection for Y-Peaking BPF	Picture Mode									03	03	03	03
	17	YPG	8	0F	Gain Adjustment for Y-Peaking BPF	Picture Mode									08	08	08	08
	18	VSE	0A	0F	Line Comb Filter Setup			0A										
	19	CCN	0	1	C-Signal Split Filter Switch			00										
	1A	COS	0	1	C-Signal Dealy Switch at Nosie Reduction			00										
	1B	SDC	0	1	DC Detection Sensitivity Switch			00										
	1C	SDY	1	1	DY Detection Lower-Level Sensitivity Switch			01										
	1D	YHC	0	3	Y-Signal Higher-Level Coring Selection	Picture Mode									00	00	00	00
	1E	YHG	0	1	Y-Signal Higher-Lever Gain Switch	Picture Mode									00	00	00	00
	1F	SHT	0	0F	Non-Standard Detection & H/V Counter Test Bits			00										
	20	CLK	8	0F	Clock Test Bits			08										
	21	PLL	0D	0F	PLL Filter Setup			0D										
	22	KRF	3	0F	Killer Detection Reference Adjustment			03										
	23	HSL	0C	0F	H-Sync Slice Level Adjustment			0C										
	24	VSL	8	0F	V-Sync Slice Level Adjustment			08										
	25	BPS	4	0F	Internal Burst Gate Start Position Adjustment			04										
	26	BPW	0A	0F	Internal Burst Gate Width Adjustment			0A										
	27	ADC	3	3	ADC Clock Delay Selection			03										
	28	APD	1	1	ADC Power-Down Switch			01										
	29	SPD	2	3	Memory Power-Down Switch			00										

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)					
Category	No	Name						Common	DVD PROG	50	60	TV	Video
2CM	00	FUN	3	3	Function		TC90A69N	03					
	01	YCM	0	3	Y/C Separator			00					
	02	CNR	0	3	CNR K			00					
	03	LIM	0	3	CNR Limit			00					
	04	CPF	0	1	C-LPF			00					
	05	SLP	0	1	SelC-LPF			00					
	06	YFO	0	1	Y-P fo	TV/Video						00	00
	07	YPG	1	3	Y-EQ Gain	TV/Video						02	02
	08	YPL	1	3	Y-EQ/N.C Limit	TV/Video						00	00
	09	CLP	0	1	Pds.Clip			00					
	0A	YPF	1	1	Y-LPF	TV/Video						00	00
	0B	VEG	3	7	V-Emph Gain			03					
	0C	VEN	3	7	V-Emph N.L			03					
	0D	VEC	2	3	V-Emph Core			02					

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)													
Category	No	Name						Common	DVD PROG	50	60	TV	Video	NR0, NTSC	NR0, others	NR1, NTSC	NR1, others	NR2, NTSC	NR2, others	NR3, NTSC	NR3, others
3NR	00	WHC	2F	3F	PLL Divider Setting (PAL=47, NTSC=44)	50/60	TC9OA90F			2F	2C										
	01	NIQ	00	01	U/V Input Polarity			01													
	02	CLW	1E	3F	A/D Clamp Pulse Width	50/60				0D	0D										
	03	CLP	50	FF	A/D Clamp Pulse Phase	50/60				50	50										
	04	YBW	8A	FF	Y H Blanking Width	50/60				8A	8A										
	05	YBL	00	0F	Y Blanking Level Adjustment			00													
	06	YBO	00	01	Internal Y H Blanking On/Off			00													
	07	MUT	00	01	Signal Output Muting			00													
	08	YBS	28	7F	Y H Blanking Start Point	50/60				28	28										
	09	CBW	8A	FF	U/V H Blanking Width	50/60				8A	8A										
	0A	CBS	28	7F	U/V H Blanking Start Point	50/60				28	28										
	0B	CBO	00	01	Internal U/V H Blanking On/Off			00													
	0C	VBL	00	0F	V H Blanking Level Adjustment			00													
	0D	UBL	00	0F	U H Blanking Level Adjustment			00													
	0E	CDL	00	07	U/V Output Delay	50/60				00	00										
	0F	YDL	00	07	Y Output Delay	50/60				00	00										
	10	PVI	00	01	VD Input Polarity			00													
	11	PHI	00	01	HD Input Polarity			00													
	12	HDW	10	3F	HD Pulse Width			10													
	13	PVO	01	01	VD Output Polarity			00													
	14	PHO	01	01	HD Output Polarity			00													
	15	HST	1B	FF	HD Out Pulse Start Position			30													
	16	VDL	00	0F	VD Out Pulse Start Position			00													
	17	VDW	03	0F	VD Out Pulse Width			03													
	18	NDE	00	0F	Noise Detection Point			00													
	19	NVP	02	0F	Noise Detect Line			02													
	1A	NDS	02	03	Noise Detection Sensitivity			03													
	1B	HOF	00	01	H Reference Pulse On/Off (ON=0)			00													
	1C	NDW	09	0F	Noise Detect Gate Width			09													
	1D	UOS	00	07	U Offset Level			04													
	1E	POT	00	03	Output Port 0/1 Control	50/60				00	00										
	1F	UVF	00	01	UV Frag Polarity			00													
	20	APC	00	01	AP Check polarity			00													
	21	DAP	00	01	DAC Power Save (ON=1)			00													
	22	YLV	08	0F	Y NR Level	NR0/1/2/3*NTSC/others								00	00	0D	0D	0E	0E	08	08
	23	YST	00	01	Y Standard Detection Off/On			00													
	24	YNT	01	01	Y NTSC Standard Detection			01													
	25	YPL	01	01	Y PAL Standard Detection			01													
	26	YMV	00	01	Y Moving Detection Filter (ON=0)			00													

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)										
Category	No	Name						Common	50	60	NR0, NTSC	NR0, others	NR1, NTSC	NR1, others	NR2, NTSC	NR2, others	NR3, NTSC	NR3, others
3NR	27	YCR	08	1F	Y Moving Detection Coring Level	NR0/1/2/3*NTSC/others					00	00	07	07	0A	0A	00	00
	28	VOS	00	07	V Offset Level			04										
	29	YMG	01	03	Y Moving Detection Gain	NR0/1/2/3*NTSC/others					00	00	00	00	00	00	00	00
	2A	YEG	01	01	Y Moving Detection On (ON=1)			01										
	2B	YEL	06	0F	Y Edge Moving Detection Sensitivity	NR0/1/2/3*NTSC/others					03	03	03	03	03	03	04	04
	2C	YLM	06	7F	Y NR Feed Back Limit Level	NR0/1/2/3*NTSC/others					00	00	04	04	08	08	03	03
	2D	CLV	0A	0F	C NR Level	NR0/1/2/3*NTSC/others					00	00	09	09	0B	0B	08	08
	2E	CNT	01	01	Relate C NR to YSTDN			01										
	2F	CPL	01	01	Relate C NR to YSTDP			01										
	30	CMG	01	03	C Moving Detection Gain	NR0/1/2/3*NTSC/others					00	00	00	00	00	00	00	00
	31	CCR	03	1F	C Moving Detection Level	NR0/1/2/3*NTSC/others					00	00	06	06	0C	0C	00	00
	32	CLM	06	7F	C NR Feed Back Limit Level	NR0/1/2/3*NTSC/others					00	00	05	05	05	05	04	04
	33	NVS	14	FF	NR Vertical Start Line	50/60			14	14								
	34	NHS	10	7F	NR Horizontal Start Position	50/60			10	10								
	35	NVE	90	FF	NR Vertical end Line (offset:+100d)	50/60			F4	F4								
	36	NHE	4E	7F	NR Horizontal end Position	50/60			78	78								
	37	YNG	01	03	Y Coring Gain	50/60			01	01								
	38	COR	00	01	Coring/Through (Coring=0)	50/60			00	00								
	39	LPF	00	01	LPF On/Off (On=0)			01										
	3A	YLT	06	0F	Y Coring Limit Level	50/60			06	06								
	3B	YNC	08	0F	Y Coring Offset Level	NR0/1/2/3*NTSC/others					08	08	0C	0C	0E	0E	08	08
	3C	YCO	01	01	Y Coring Off (On=1)	50/60			00	00								

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)	
Category	No	Name						Common	DVD PROG
TXT	00	TXH	2A	FF	Teletext Horizontal Position for Phiilips		SAA5264	2A	
	01	TXV	27	3F	Teletext Vertical Position for Philips			27	
	02	THD	00	7F	Teletext H-Sync Active Edge Shift			00	
	03	TVD	00	7F	Teletext V-Sync Active Edge Shift			00	
	04	HPL	01	01	Teletext H-Sync Polarity Configuration			01	
	05	VPL	00	01	Teletext V-Sync Polarity Configuration			00	
	06	FPL	01	01	Teletext Field Polarity Configuration			01	
	07	FMD	00	03	Teletext Fastext/TOP Force Mode			00	
	08	TBR	08	0F	Teletext RGB Brightness			08	
	09	NOP	01	0F	Teletext National Option Table Configuration			01	
	0A	TCH	01	03	Teletext Twisted Character Set Configuration			01	

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)	
Category	No	Name						Common	DVD PROG
OPM	00	OSH	12	3F	OSD H Position	TV/Video	CXP750096	12	12
	01	FW1	0	3F	OSD ODD/EVEN Field Window Setup#1			00	
	02	FW2	3	3F	OSD ODD/EVEN Field Window Setup#2			03	
	03	COM	0	03	Comb Operation Selection			00	
	04	APC	1	1	APC Switch			01	
	05	TSY	0	03	TV System Selection Under Searching With Auto TV System			00	
	06	MUT	0	1	No Signal Mute			00	
	07	AFM	1	1	Auto FM Switch			01	
	08	TVO	3	7	V-Angle Correction to Picture Rotation			03	
	09	DBL	0	1	Disable Blueback Function			00	
	0A	SSO	1	3	Speed CH Search Selection			01	
	0B	TRP	0	3F	MPEG/JPEG Noise Reduction for each input			00	
	0C	SCH	7F	7F	CH Selection for Shipping Condition	NTSC Only		7F	
	0D	SCA	1	1	Cable/Air Selection for Shipping Condition	NTSC Only		01	
	0E	VSN	1	1	Enable Noise Reduction in Video Mode			01	
	0F	PSQ	0	1	Power Seq for Continuos Sircs Detection Spec			00	
	10	POR	0	1	Power On Reset Detection From YCT			00	

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Initial Value (detailed)	
Category	No	Name						Common	DVD PROG
OPB	00	OP1	E7	FF	Optional Bits 1 (refer page 34)		Option-Bits	FF	
	01	OP2	17	FF	Optional Bits 2 (refer page 34)			94	
	02	OP3	00	FF	Optional Bits 3 (refer page 34)			00	

Abbreviation

VC	=	V-Compressed Mode	NC	=	Non-compressed Mode	ECO	=	Eco Mode
Sur	=	Surround	NR	=	Noise Reduction	FF	=	Flicker Free
R4	=	Real 4	PR	=	Progressive			

NOTE
- shaded items are fixed data.
- no data.
- Standard data listed on the Adjustment Item Table are reference values, therefore it may be different for each model and for each mode.
- Note for Different Data: The data indicated in the initial colomn are the standard data values written on the microprocessor. Therefore, the data values of the modes are stored respectively in the memory. In case of a device replacement, adjustment by rewriting the data value is necessary for some items.

OPTION NOTE

COM	Comb Operation Selection	00 = Auto 01 = No comb, 02 = Forced 2D comb, 03 = Forced 3D comb,
TSY	TV System Selection for Auto TV System	00 = B/G, 01 = I, 10 = D/K, 11 = M
SSO	Speed CH Search Selection	00 = normal, 01 = 4 times, 10 = 6 times, 11 = 8 times
TRP	MPEG/JPEG Noise Reduction	

Input	–	–	TV	Video 1	Video 2	Video 3	Video 4	DVD

OP1 Items

Item	TOP	NICAM	HDEV	Thai Bil.	Sleep Mode	DVD Input	AV Input		HEX
KV-DR29M39	1	1	1	0	1	1	1	1	EF
KV-DR29M63	0	1	1	0	1	1	1	1	6F
KV-DR29M69	1	1	1	0	1	1	1	1	EF
KV-DR29M89	0	0	0	0	1	1	1	1	0F

AV Input 00 = no AV Input, 01 = 1 AV Input, 10 = 3 AV Input, 11 = 4 AV Input

OP2 Items

Item	PiP Models	Korean Stereo	Vid NTSC3.58	A-TV sys	US ST	Chinese	Arabic	Thai	HEX
KV-DR29M39	1	0	0	1	0	1	1	1	97
KV-DR29M63	0	0	0	1	0	1	1	1	17
KV-DR29M69	1	0	0	1	0	1	1	1	97
KV-DR29M89	1	0	0	0	0	1	1	1	87

PiP Models — PiP models 0 = No PiP, 1 = PiP

Korean Stereo* — Korean Stereo 0 = disabled, 1 = enabled

Video NTSC3.58* — Video Color System 0 = Multi System, 1 = Single System (NTSC3.58)

A-TVsys — Auto TV System in Auto Program 0 = Disabled, 1 = enabled

US ST* — USA Stereo 0 = disabled, 1 = enabled

OSD Language (Multi)

000 = English only	100 = English & Chinese
010 = English & Arabic	110 = English, Chinese & Arabic
001 = English & Thai	101 = English, Chinese & Thai
011 = English, Arabic & Thai	111 = English, Chinese, Arabic & Thai

OSD Language (NTSC)

000 = English only	010 = English & Taiwanese
001 = English & Korean	011 = English, Taiwanese & Korean

OP3 Items

Item	N/A	N/A	N/A	N/A	N/A	N/A	Initial menu	Forced 50/60	HEX
KV-DR29M39	0	0	0	0	0	0	1	0	02
KV-DR29M63	0	0	0	0	0	0	1	0	02
KV-DR29M69	0	0	0	0	0	0	1	0	02
KV-DR29M89	0	0	0	0	0	0	1	0	02

Forced 50/60*	Forced to 50/60Hz during no signal condition	0 = 60Hz, 1 = 50Hz
Initial Menu	Activate initial setup or not	0 = Not active 1 = Active

*APPLICABLE FOR NTSC MODELS ONLY

NOTE

No.	Modes	Details	Entry Conditions
1.	50NC/60NC	Signal 50/60Hz Non-Compressed mode.	Input 50Hz(PAL)/60Hz(NTSC), wide mode OFF (TV/ video mode)
2.	50VC/60VC	Signal 50/60Hz V-Compressed mode.	Input 50Hz(PAL)/60Hz(NTSC), wide mode ON (TV/ Video mode)
3.	ECO ON/OFF NC	Eco modeON/OFF Non-Compressed mode.	ECO mode ON/OFF, wide mode OFF
4.	ECO ON/OFF VC	ECO mode ON/OFF V-Compressed mode.	ECO mode ON/OFF, wide mode ON
5.	50/60 DVD	Signal 50/60Hz Digital Video Disk	Input 50Hz(PAL)/60Hz(NTSC), DVD
6.	Multi Comb	Multi Comb Filter	Input PAL, NTSC 3.58, Service mode category OPM 03 COM 01 (Multi Model only)
7.	3D Comb	3 Dimensional Comb Filter	Input NTSC 3.58 only, Service mode category OPM 03 COM 02 (NTSC model only)
8.	S-Input	S-Video Input	Connect S-Video Cable, video mode
9.	NR0		3D NR mode OFF
10.	NR3		3D NR mode ON and signal level is poor.
11.	NR1		3D NR mode ON and signal level is bad.
12.	NR2		3D NR mode ON and signal level is worst.

6-3. PICTURE QUALITY ADJUSTMENTS

Adjustment condition

1. Set to service mode.
2. Set picture mode to HI-FINE.
3. Set the following condition.

ECO MODE	:	OFF
WIDE MODE	:	OFF
DRC-MF	:	DRC1250
3D-NR	:	ON

Input signal : Video Color Bar
RF Color Bar

MEASUREMENT POINT

A board CN4301
① R-OUT
⑤ B-OUT

CAUTION
After Adjustment, these adjustment parameters must be recovered to the original condition.

Original Condition
SAJ 00 PIC 28 HI-FINE

	50 TV	50 VIDEO	60 TV	60 VIDEO
0E CLO	06	08	09	09
1O HUO	05	03	07	06

6-3(1). DRIVE ADJUSTMENT (VIDEO MODE)

(i) SUB CONTRAST (PAL)
Input signal : PAL Color bar (100%) to Video
Picture : HI-FINE mode
Condition : SAJ 00 PIC 3F
SAJ 02 COL 00
JGL 01 RGB 04
Adjusting parameter:
YCT 04 SCT

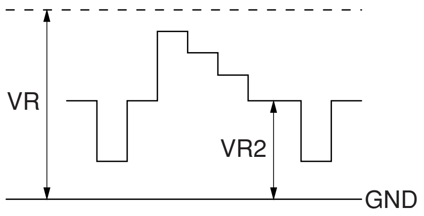
(ii) SUB CONTRAST (NTSC)
Input signal : NTSC Color Bar (75%) to Video
Picture : HI-FINE mode
Condition: SAJ 00 PIC 3F
SAJ 02 COL 00
JGL 01 RGB 04
Adjusting parameter :
YCT 04 SCT

6-3(2). DRIVE ADJUSTMENT (RF MODE)

(i) SUB CONTRAST (PAL)
Input signal : PAL Color bar (100%) to Video
Condition : SAJ 00 PIC 3F
SAJ 02 COL 00
JGL 01 RGB 04

Adjusting parameter:
YCT 04 SCT

(ii) NTSC (RF MODE)
Input signal : NTSC Color Bar (75%) to Video
Condition: SAJ 00 PIC 3F
SAJ 02 COL 00
JGL 01 RGB 04
Adjusting parameter :
YCT 04 SCT



VR1 - VR2 = ΔVR = 2.35 ± 0.07 (Vp-p) (PAL)
(ΔVR = 1.85 ± 0.07 (Vp-p)-For NTSC)

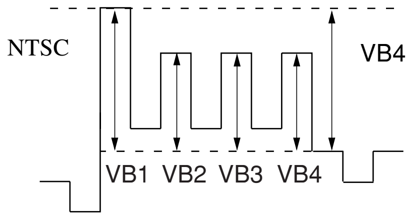
6-4. SUB HUE/COL ADJUSTMENT

6-4(1). SUB HUE/SUB COL (VIDEO MODE)

Input signal : NTSC Color bar (75%)
Picture : HI-FINE mode
Condition : SAJ 00 PIC 3F
SAJ 02 COL 1F
SAJ 10 HUO 05
SAJ 0E CLO 04
Adjusting parameter:
YCT 03 SCL
YCT 00 TNT

6-4(2). SUB HUE/SUB COL (NTSC RF MODE)

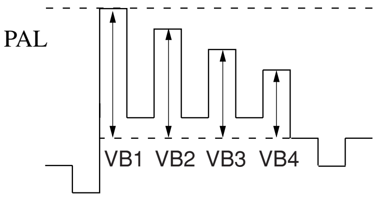
Input signal : NTSC Color bar (75%)
Condition : SAJ 00 PIC 3F
SAJ 02 COL 1F
SAJ 10 HUO 05
SAJ 0E CLO 04
Adjusting parameter:
YCT 03 SCL
YCT 00 TNT



VB1 = VB4 ± 70 mV
VB2 = VB3 ± 70 mV

6-4(3). SUB COLOR ADJUSTMENT (PAL RF MODE) (Except NTSC models)

Input signal : RF PAL Color bar (100%)
Picture : HI-FINE mode
Condition : SAJ 00 PIC 3F
SAJ 02 COL 1F
SAJ 0E CLO 04
SAJ 10 HUO 05
JGL 01 RGB 07
Adjusting parameter:
YCT 03 SCL



VB2 = VB3 = VB4

6-4(4). SUB COLOR ADJUSTMENT (PAL RF MODE)

Input signal : PAL Color bar (100%)
Picture : HI-FINE mode

Condition :				
	SAJ	00	PIC	3F
	SAJ	02	COL	1F
	SAJ	0E	CLO	04
	SAJ	10	HUO	05
	JGL	01	RGB	07
Adjusting parameter:				
	YCT	03	SCL	

6-5. DEFLECTION ADJUSTMENTS

FOR DRC 1250 (50Hz) MODE

1. Set to Service Mode.
2. Input a PAL cross hatch/dot signal.
3. Set the following condition.
   Picture Mode to [DYNAMIC], Picture Rotation to [+/–0] and Eco Mode to OFF.
4. Set to DRC-MF1250 mode.
5. Using the [1] and [4] button, select category GEO (Service Mode).
6. Select and adjust the following items to obtain optimum image. Raise/lower the data using the [3] and [6] buttons.

Service Item

GEO :	00	VSZ	V SIZE
	01	VPS	V POSITION
	02	VLN	V LINEARITY
	03	SCO	S CORRECTION
	04	HSZ	H SIZE
	06	PAP	PIN AMP
	07	UPN	UPPER CORNER PIN
	08	LPN	LOWER CORNER PIN CORRECTION POSITION SETTING
	09	UCG	MOST UPPER CORNER PIN ADJUSTMENT
	0E	PPH	V TRAPEZOID ADJUSTMENT
	0F	AGL	AFC ANGLE
	10	BOW	AFC BOW
	11	HTR	V SAW0 WAVE SAW LEVEL GAIN CONTROL
	12	MPD	MP PARA WAVE DC BIAS CONTROL
	14	PBP	H CENT PARA WAVE SAW LEVEL GAIN CONTROL
	15	PBA	H CENT PARA WAVE GAIN CONTROL
DAC :	00	HCT	H CENTER
	01	HLN	H LINEARITY

7. Write into the memory by pressing [MUTING] then [0] on the remote commander.

FOR WIDE MODE, DRC1250 (50Hz)

8. Adjust condition change to WIDE MODE : ON.
9. COPY (item FOR DRC 1250 (50Hz) MODE and adjust data for the following items.

Service Item

GEO :	00	VSZ	V SIZE
	01	VPS	V POSITION
	04	HSZ	H SIZE
	12	MPD	MP PARA WAVE DC BIAS CONTROL
	14	PBP	H CENT PARA WAVE SAW LEVEL GAIN CONTROL

10. Adjust V Blanking the following items.

Service Item

GEO :	1E	VAS	V ASPECT
	1F	VSC	V SCROLL

FOR DRC 1250 (60Hz) MODE

11. Input 525/60Hz signal.
12. Set to DRC-MF : 1250
13. COPY (item for DRC 1250 (50Hz) mode and adjust data for the following items.

Service Item

GEO :	12	MDP	MP PARA WAVE DC BIAS CONTROL
	14	PBP	H CENT PARA WAVE SAW LEVEL GAIN CONTROL

14. Adjust the following items.

Service Item

GEO :	00	VSZ	V SIZE
	01	VPS	V POSITION
	02	VLN	V LINEARITY
	03	SCO	S CORRECTION
	04	HSZ	H SIZE
	05	HPS	H POSITION
	06	PAP	PIN AMP
	07	UPN	UPPER CORNER PIN
	08	LPN	LOWER CORNER PIN
	09	UCG	MOST UPPER CORNER PIN ADJUSTMENT
	0E	PPH	V TRAPEZOID ADJUSTMENT
	0F	AGL	AFC ANGLE
	10	BOW	AFC BOW
	11	HTR	V SAWO WAVE SAW LEVEL GAIN CONTROL
	15	PBA	H CENT PARA WAVE GAIN CONTROL
DAC	01	HLN	H LINEARITY

FOR WIDE MODE, DRC 1250 (60Hz)

15. Set to WIDE MODE : ON
16. Copy the DRC 1250 (60Hz) MODE and adjust the following items to obtain optimum image.
 Raise/lower the data with the [3] and [6] buttons.

GEO	00	VSZ	V SIZE
	01	VPS	V POSITION
	04	HSZ	H SIZE
	12	MPD	MP PARA WAVE DC BIAS CONTROL
	14	PBP	H CENT PARA WAVE SAW LEVEL GAIN CONTROL

17. Adjust V Blanking for the following items.

GEO	1E	VAS	V ASPECT
	1F	VSC	V SCROLL

18. Adjust the following items.

 Service Item

GEO :	02	VLN	V LINEARITY
	03	SCO	S CORRECTION
	04	HSZ	H SIZE
	05	HPS	H POSITION
	06	PAP	PIN AMP
	07	UPN	UPPER CORNER PIN
	08	LPN	LOWER CORNER PIN
	09	UCG	MOST UPPER CORNER PIN ADJUSTMENT
	0E	PPH	V TRAPEZOID ADJUSTMENT
	0F	AGL	AFC ANGLE
	10	BOW	AFC BOW
	11	HTR	V SAWO WAVE SAW LEVEL GAIN CONTROL
	15	PBA	H CENT PARA WAVE GAIN CONTROL

19. Input a NTSC cross hatch/dot signal and repeat all above steps.

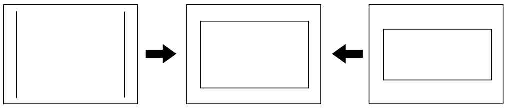
6-6. A BOARD ADJUSTMENT AFTER IC003 (MEMORY) REPLACEMENT

1. Enter to Service Mode.
2. Press commander buttons [5] and [0] (Data Initialize), and [2] and [0] (Data Copy) to initialize the data.
3. Call each item number and check if the respective screen shows the normal picture.
 In cases where items are not well adjusted, rectify the items with fine adjustment.
 Write the data per each item number ([MUTING] +[0]).
4. Select item numbers “OPB00” (OP1), “OPB01” (OP2) and respectively set the bit per model with command buttons [3] and [6].
5. Press commander buttons [8] and [0] (Test Normal) to return to the data that was set on the shipment from the factory. (This will also cancel Service Mode.)

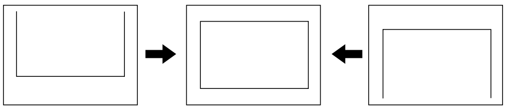
6-7. PICTURE DISTORTION ADJUSTMENT (1)

Item Number 00 – 0B

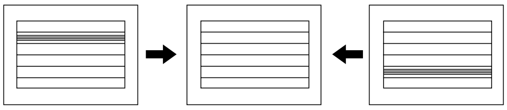
GEO 0 VSZ (V SIZE)



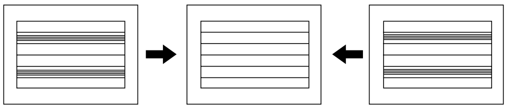
GEO 1 VPS (V POSITION)



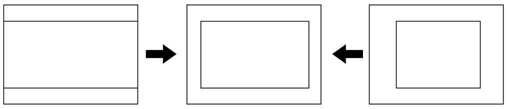
GEO 2 VLN (V LINEARITY)



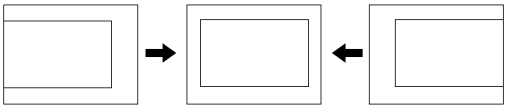
GEO 3 SCO (VERTICAL S-Correction)



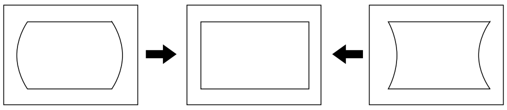
GEO 4 HSZ (H SIZE)



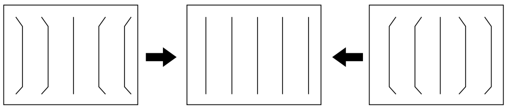
GEO 5 HPS (H POSITION)



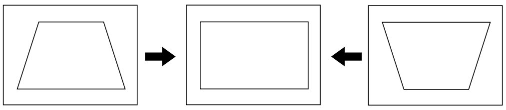
GEO 6 PAP (PIN AMP)



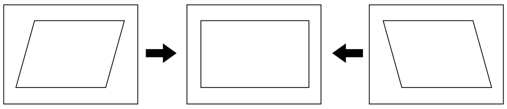
GEO 07 UPN (UPPER CORNER PIN)
GEO 08 LPN (LOWER CORNER PIN)



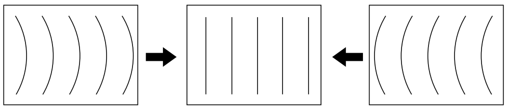
GEO 0E PPH (V TRAPEZOID ADJUSTMENT)



GEO 0F AGL (AFC.ANGLE)

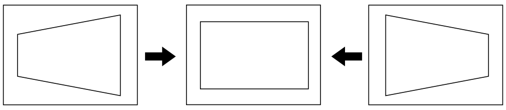


GEO 10 BOW (AFC.BOW)



PICTURE DISTORTION ADJUSTMENT (2)

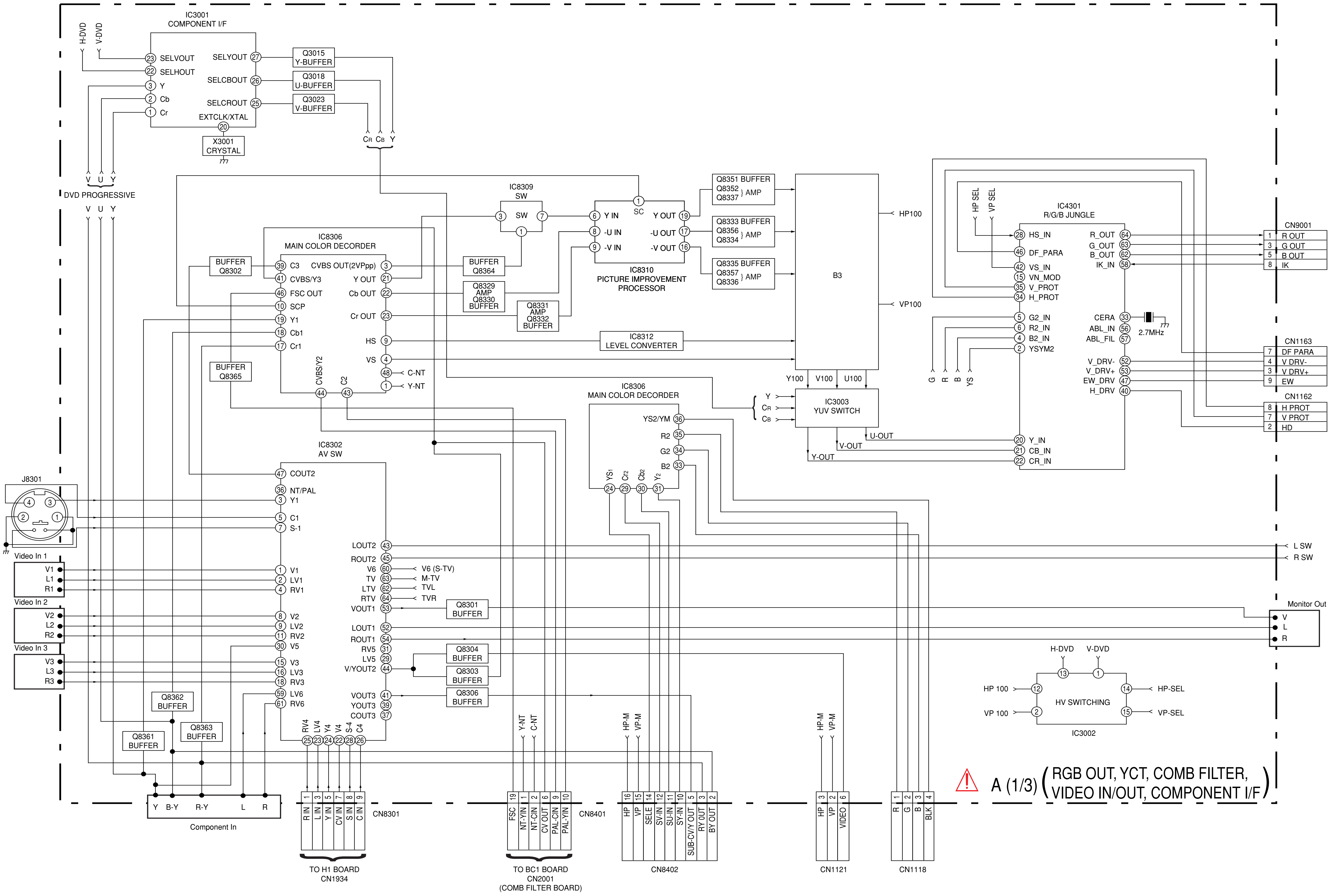
V SAWO WAVE LEVEL GAIN CONTROL (GEO 11 HTR)

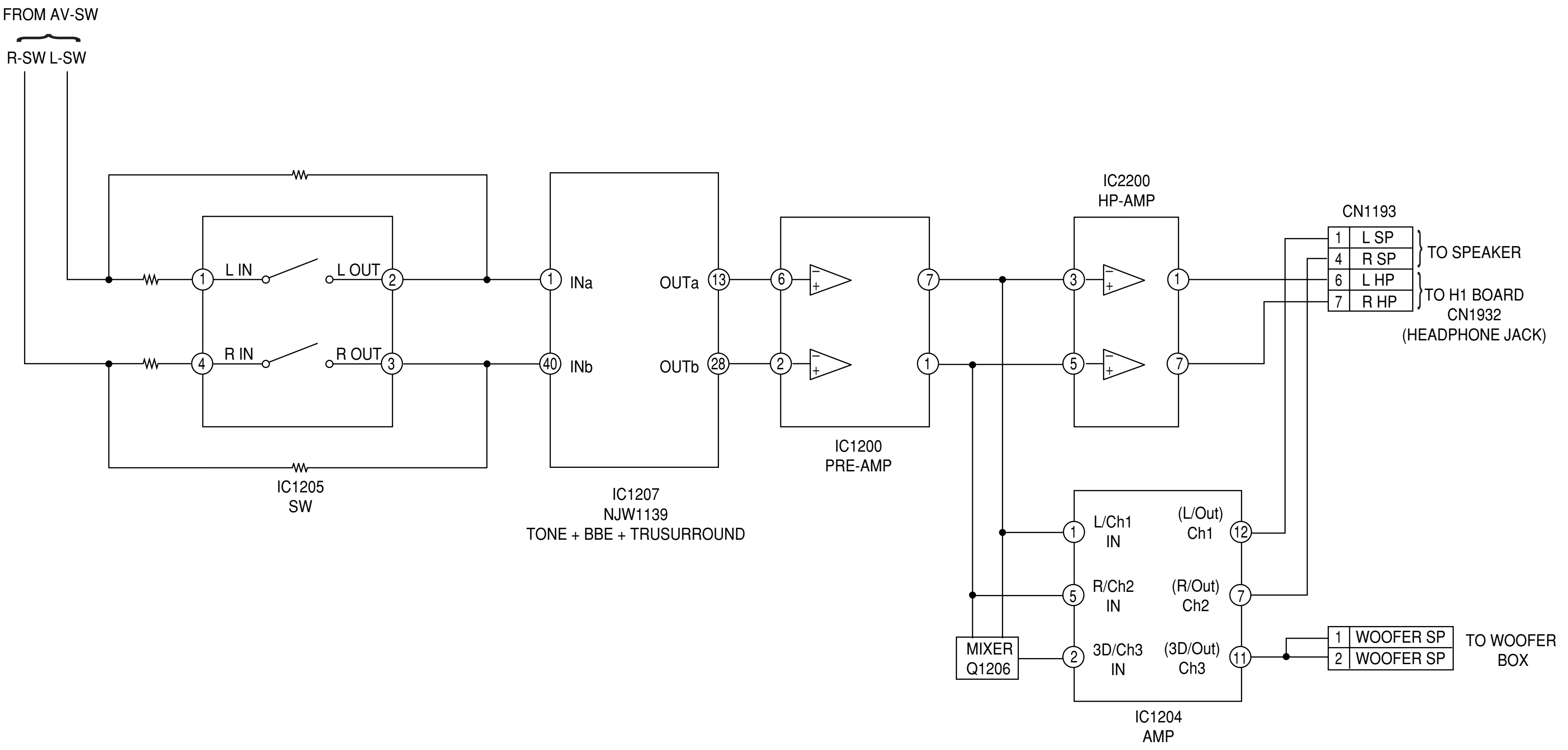


KV-DR29M39/DR29M63/
KV-DR29M69/DR29M89
RM-991

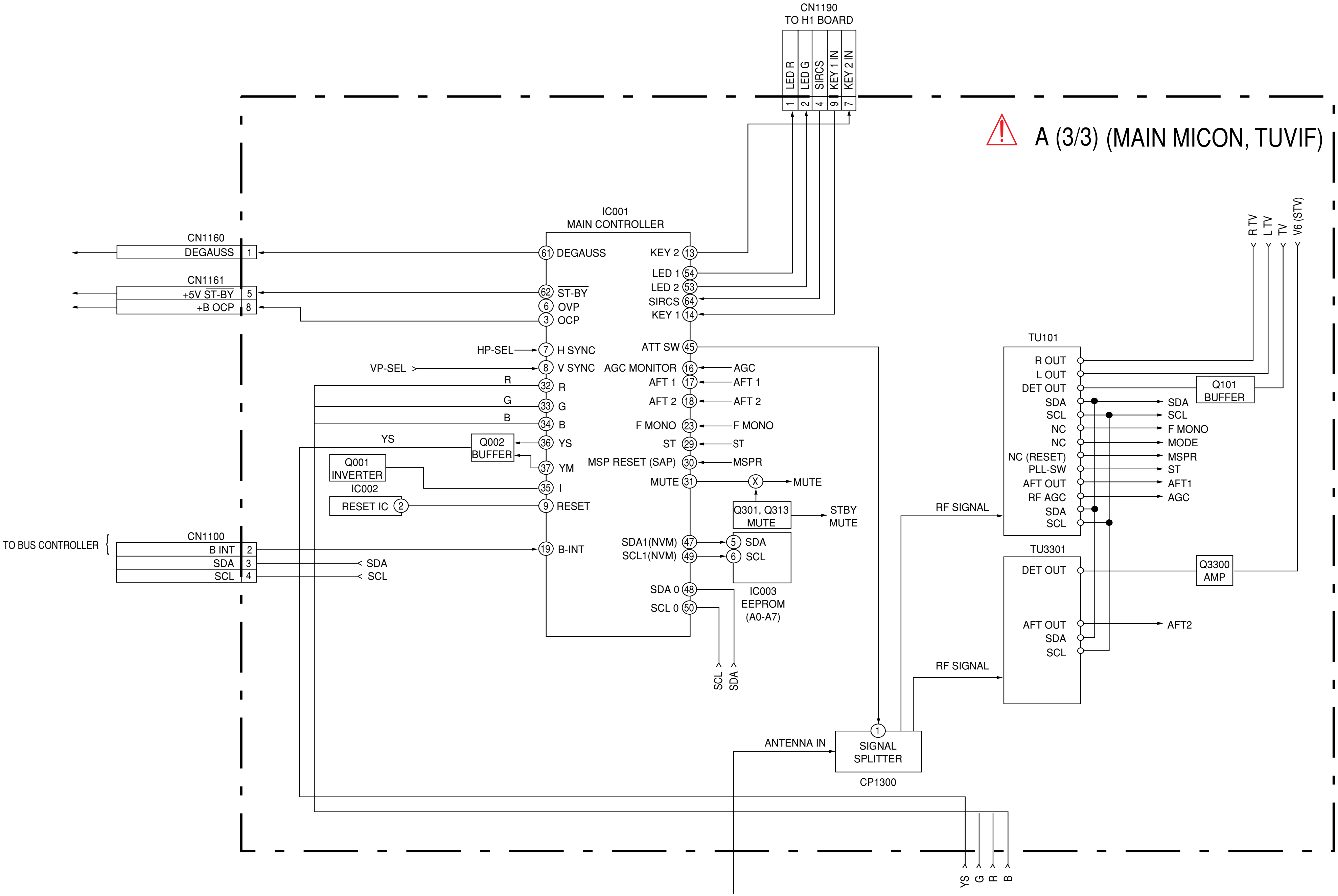
SECTION 7 DIAGRAMS

7-1. BLOCK DIAGRAM



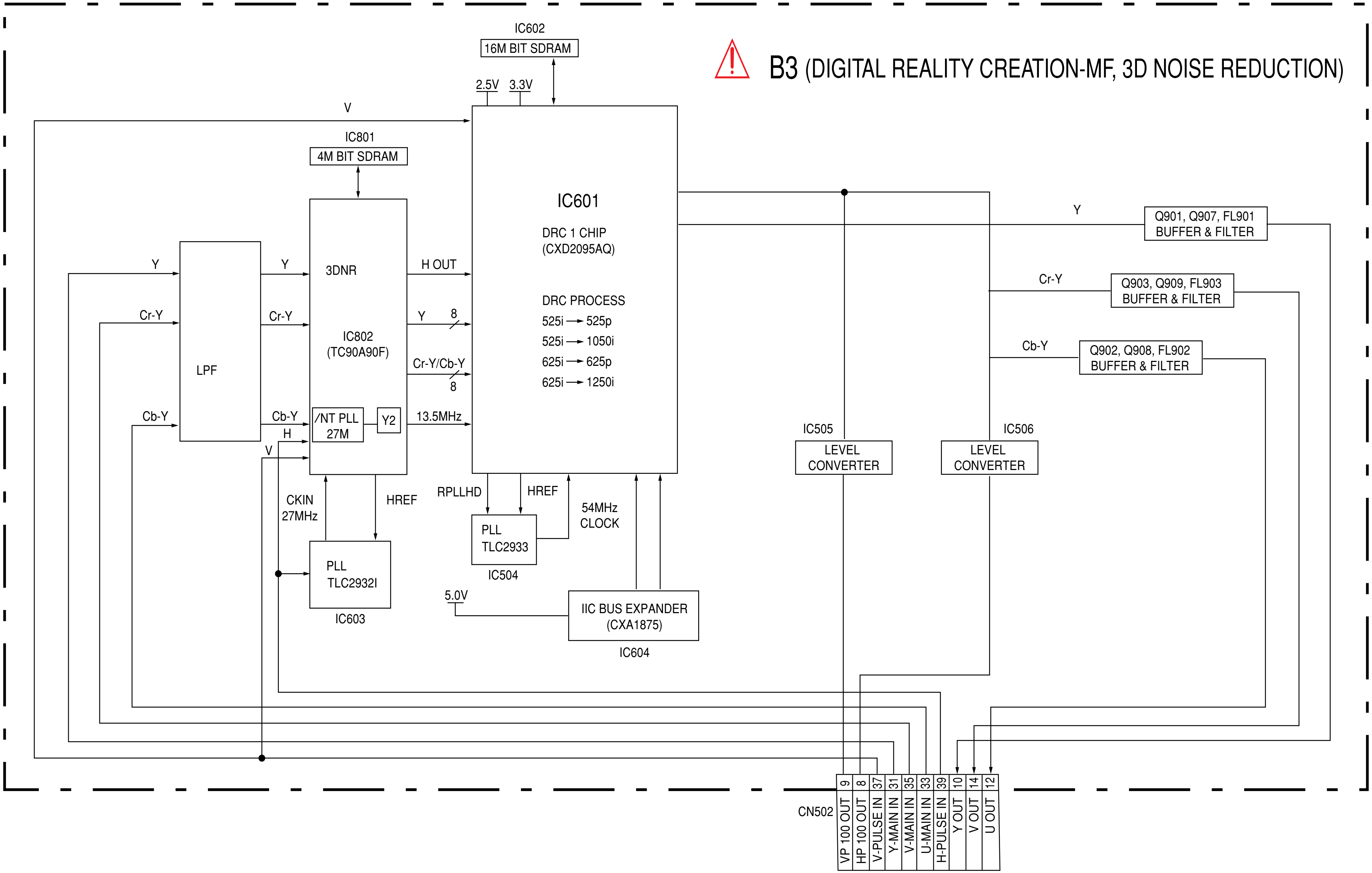


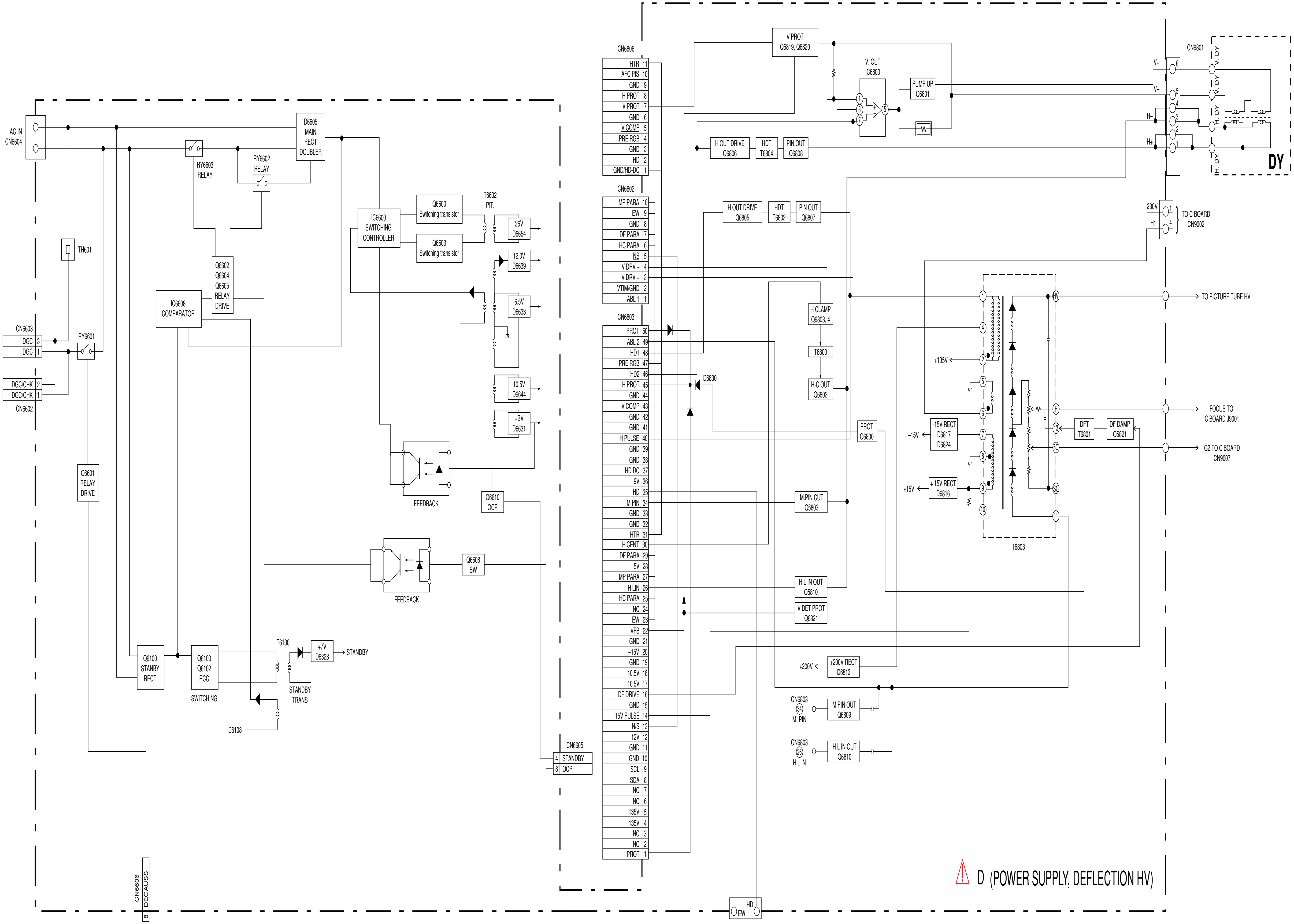
A (2/3) (AUDIO AMP, AUDIO IN/OUT)

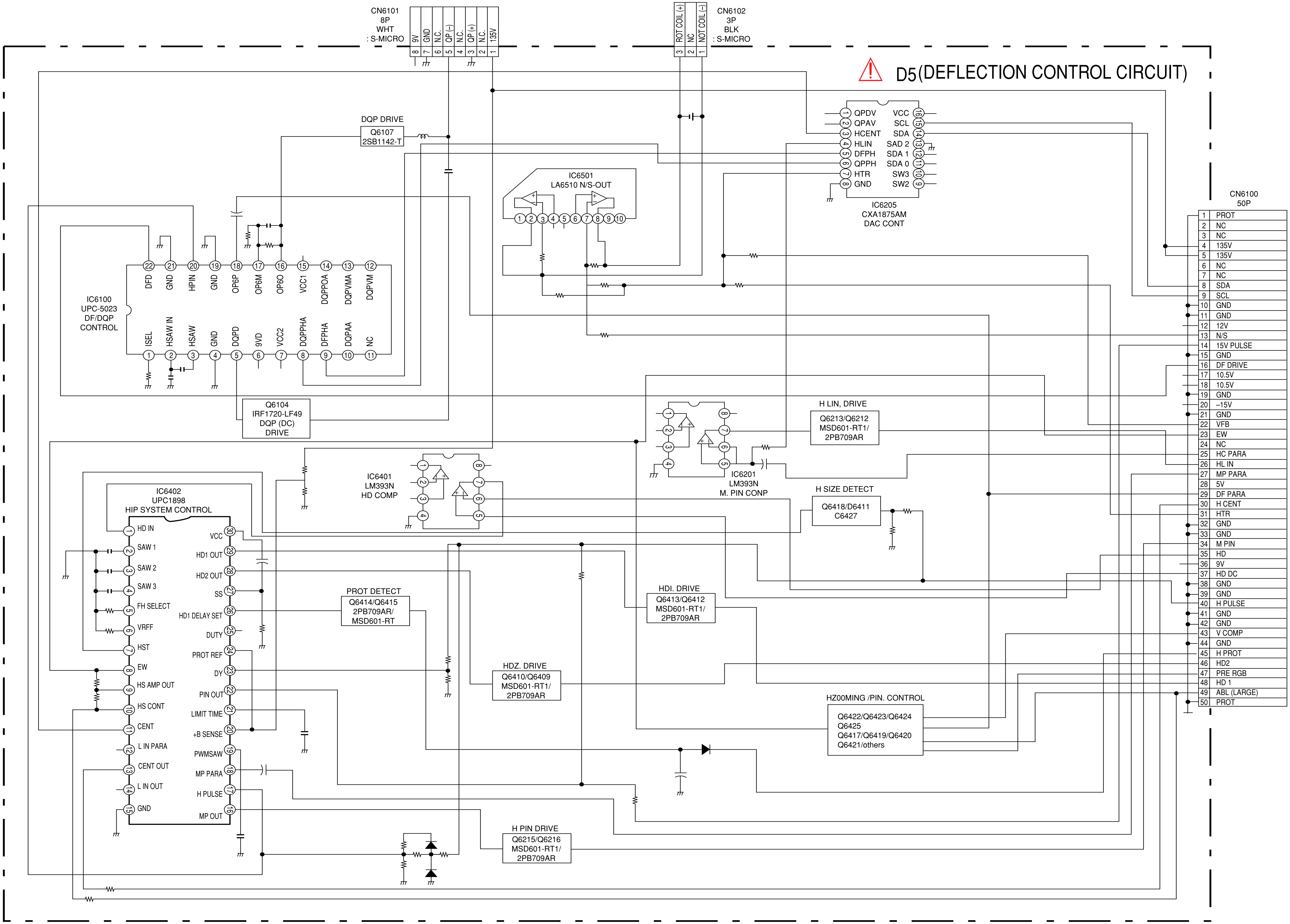


A (3/3) (MAIN MICON, TUVIF)
CN1190
TO H1 BOARD
1 LED R
2 LED G
4 SIRCS
9 KEY 1 IN
7 KEY 2 IN
IC001
MAIN CONTROLLER
CN1160
DEGAUSS 1
CN1161
+5V ST-BY 5
+B OCP 8
61 DEGAUSS
62 ST-BY
6 OVP
3 OCP
KEY 2 13
LED 1 54
LED 2 53
SIRCS 64
KEY 1 14
HP-SEL
7 H SYNC
VP-SEL
8 V SYNC
R
32 R
G
33 G
B
34 B
YS
Q002
BUFFER
36 YS
37 YM
Q001
INVERTER
35 I
IC002
RESET IC 2
9 RESET
TO BUS CONTROLLER
CN1100
B INT 2
SDA 3
SCL 4
SDA
SCL
19 B-INT
ATT SW 45
AGC MONITOR 16
AGC
AFT 1 17
AFT 1
AFT 2 18
AFT 2
F MONO 23
F MONO
ST 29
ST
MSP RESET (SAP) 30
MSPR
MUTE 31
MUTE
Q301, Q313
MUTE
STBY
MUTE
SDA1(NVM) 47
SCL1(NVM) 49
5 SDA
6 SCL
SDA 0 48
SCL 0 50
IC003
EEPROM
(A0-A7)
SCL
SDA
TU101
R OUT
L OUT
DET OUT
SDA
SCL
NC
NC
NC (RESET)
PLL-SW
AFT OUT
RF AGC
SDA
SCL
R TV
L TV
TV
V6 (STV)
Q101
BUFFER
SDA
SCL
F MONO
MODE
MSPR
ST
AFT1
AGC
RF SIGNAL
TU3301
DET OUT
AFT OUT
SDA
SCL
Q3300
AMP
AFT2
RF SIGNAL
ANTENNA IN
1
SIGNAL
SPLITTER
CP1300
YS
G
R
B

B3 (DIGITAL REALITY CREATION-MF, 3D NOISE REDUCTION)




AC IN
CN6604
TH601
CN6603
DGC 3
DGC 1
DGC/CHK 2
DGC/CHK 1
CN6602
RY6601
RY6603
RELAY
RY6602
RELAY
D6605
MAIN
RECT
DOUBLER
IC6608
COMPARATOR
Q6602
Q6604
Q6605
RELAY
DRIVE
IC6600
SWITCHING
CONTROLLER
Q6600
Switching transistor
Q6603
Switching transistor
T6602
PIT.
26V
D6654
12.0V
D6639
6.5V
D6633
10.5V
D6644
+BV
D6631
FEEDBACK
Q6610
OCP
Q6608
SW
FEEDBACK
Q6601
RELAY
DRIVE
Q6100
STANBY
RECT
Q6100
Q6102
RCC
SWITCHING
T6100
+7V
D6323
STANDBY
STANDBY
TRANS
D6108
CN6605
4 STANDBY
8 OCP
CN6606
8 DEGAUSS
CN6806
HTR 11
AFC PIS 10
GND 9
H PROT 8
V PROT 7
GND 6
V COMP 5
PRE RGB 4
GND 3
HD 2
GND/HD-DC 1
CN6802
MP PARA 10
EW 9
GND 8
DF PARA 7
HC PARA 6
NS 5
V DRV – 4
V DRV + 3
VTIM/GND 2
ABL 1 1
CN6803
PROT 50
ABL 2 49
HD1 48
PRE RGB 47
HD2 46
H PROT 45
GND 44
V COMP 43
GND 42
GND 41
H PULSE 40
GND 39
GND 38
HD DC 37
9V 36
HD 35
M PIN 34
GND 33
GND 32
HTR 31
H CENT 30
DF PARA 29
5V 28
MP PARA 27
H LIN 26
HC PARA 25
NC 24
EW 23
VFB 22
GND 21
–15V 20
GND 19
10.5V 18
10.5V 17
DF DRIVE 16
GND 15
15V PULSE 14
N/S 13
12V 12
GND 11
GND 10
SCL 9
SDA 8
NC 7
NC 6
135V 5
135V 4
NC 3
NC 2
PROT 1
V PROT
Q6819, Q6820
V. OUT
IC6800
PUMP UP
Q6801
H OUT DRIVE
Q6806
HDT
T6804
PIN OUT
Q6808
H OUT DRIVE
Q6805
HDT
T6802
PIN OUT
Q6807
H CLAMP
Q6803, 4
T6800
H-C OUT
Q6802
D6830
PROT
Q6800
M.PIN CUT
Q5803
H LIN OUT
Q5810
V DET PROT
Q6821
+200V
+200V RECT
D6813
CN6803
34
M. PIN
M PIN OUT
Q6809
CN6803
26
H LIN
H LIN OUT
Q6810
HD
EW
CN6801
V+
V–
H–
H+
V. DY
V. DY
H. DY
H. DY
DY
200V
H1
TO C BOARD
CN9002
TO PICTURE TUBE HV
+135V
–15V
–15V RECT
D6817
D6824
+15V
+15V RECT
D6816
DFT
T6801
DF DAMP
Q5821
FOCUS TO
C BOARD J9001
G2 TO C BOARD
CN9007
T6803
D (POWER SUPPLY, DEFLECTION HV)


D5 (DEFLECTION CONTROL CIRCUIT)
CN6101
8P
WHT
: S-MICRO
9V
GND
N.C.
QP (–)
N.C.
QP (+)
N.C.
135V
CN6102
3P
BLK
: S-MICRO
ROT COIL (+)
NC
NOT COIL (–)
DQP DRIVE
Q6107
2SB1142-T
IC6501
LA6510 N/S-OUT
IC6205
CXA1875AM
DAC CONT
QPDV
QPAV
HCENT
HLIN
DFPH
QPPH
HTR
GND
VCC
SCL
SDA
SAD 2
SDA 1
SDA 0
SW3
SW2
IC6100
UPC-5023
DF/DQP
CONTROL
DFD
GND
HPIN
GND
OP6P
OP6M
OP6O
VCC1
DQPPOA
DQPVMA
DQPVM
ISEL
HSAW IN
HSAW
GND
DQPD
9VD
VCC2
DQPPHA
DFPHA
DQPAA
NC
Q6104
IRF1720-LF49
DQP (DC)
DRIVE
H LIN, DRIVE
Q6213/Q6212
MSD601-RT1/
2PB709AR
IC6201
LM393N
M. PIN CONP
H SIZE DETECT
Q6418/D6411
C6427
IC6401
LM393N
HD COMP
IC6402
UPC1898
HIP SYSTEM CONTROL
HD IN
SAW 1
SAW 2
SAW 3
FH SELECT
VRFF
HST
EW
HS AMP OUT
HS CONT
CENT
L IN PARA
CENT OUT
L IN OUT
GND
VCC
HD1 OUT
HD2 OUT
SS
HD1 DELAY SET
DUTY
PROT REF
DY
PIN OUT
LIMIT TIME
+B SENSE
PWMSAW
MP PARA
H PULSE
MP OUT
PROT DETECT
Q6414/Q6415
2PB709AR/
MSD601-RT
HDI. DRIVE
Q6413/Q6412
MSD601-RT1/
2PB709AR
HDZ. DRIVE
Q6410/Q6409
MSD601-RT1/
2PB709AR
HZ00MING /PIN. CONTROL
Q6422/Q6423/Q6424
Q6425
Q6417/Q6419/Q6420
Q6421/others
H PIN DRIVE
Q6215/Q6216
MSD601-RT1/
2PB709AR
CN6100
50P
1 PROT
2 NC
3 NC
4 135V
5 135V
6 NC
7 NC
8 SDA
9 SCL
10 GND
11 GND
12 12V
13 N/S
14 15V PULSE
15 GND
16 DF DRIVE
17 10.5V
18 10.5V
19 GND
20 –15V
21 GND
22 VFB
23 EW
24 NC
25 HC PARA
26 HL IN
27 MP PARA
28 5V
29 DF PARA
30 H CENT
31 HTR
32 GND
33 GND
34 M PIN
35 HD
36 9V
37 HD DC
38 GND
39 GND
40 H PULSE
41 GND
42 GND
43 V COMP
44 GND
45 H PROT
46 HD2
47 PRE RGB
48 HD 1
49 ABL (LARGE)
50 PROT

7-2. SCHEMATIC DIAGRAMS

Note:

- All capacitors are in μF unless otherwise noted.
- All electrolytic capacitors are rated at 50V unless otherwise noted.
- All resistors are in ohms.
  kΩ = 1000Ω, MΩ = 1000kΩ
- Indication of resistance which does not have rating electrical power is as follows.

Pitch: 5 mm Rating electrical power 1/4W (CHIP: 1/10W)

- (FW symbol) : nonflammable resistor.
- △ : internal component.
- (box) : panel designation or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B unless otherwise noted.
- **Readings are taken with a color-bar signal input.**
  no mark : Common
  ( ) : PAL
  [ ] : NTSC 3.58
- **Readings are taken with a 10Ω digital multimeter.**
- **Voltage are dc with respect to ground unless otherwise noted.**
- **Voltage variations may be noted due to normal production tolerances.**
- **All voltages are in V.**
- ***** : **Cannot be measured.**
- **Circled numbers are waveform references.**
- (solid line) : **B + bus.**
- (dashed line) : **B – bus.**
- ⇨ : **signal path.**

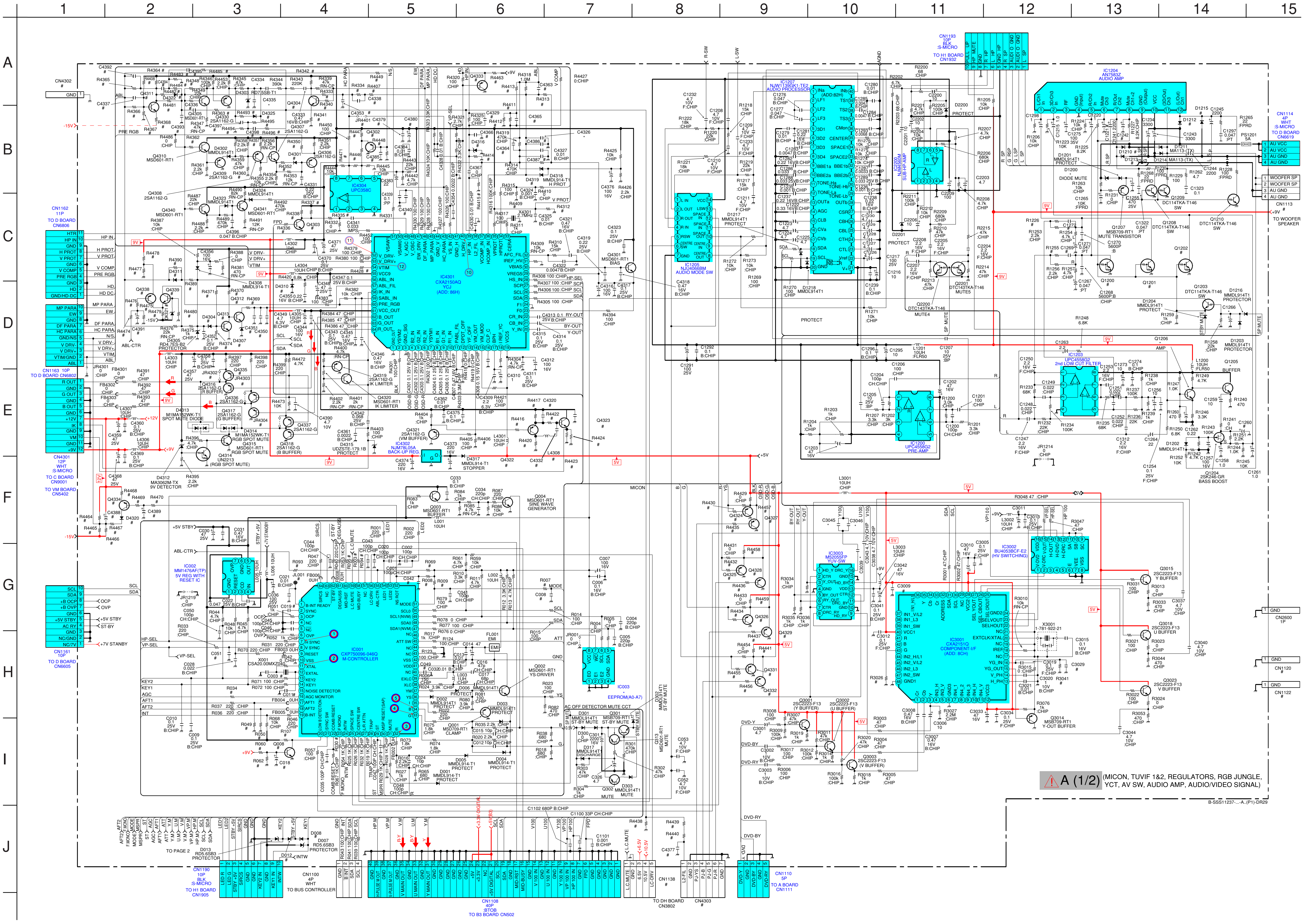
Reference information

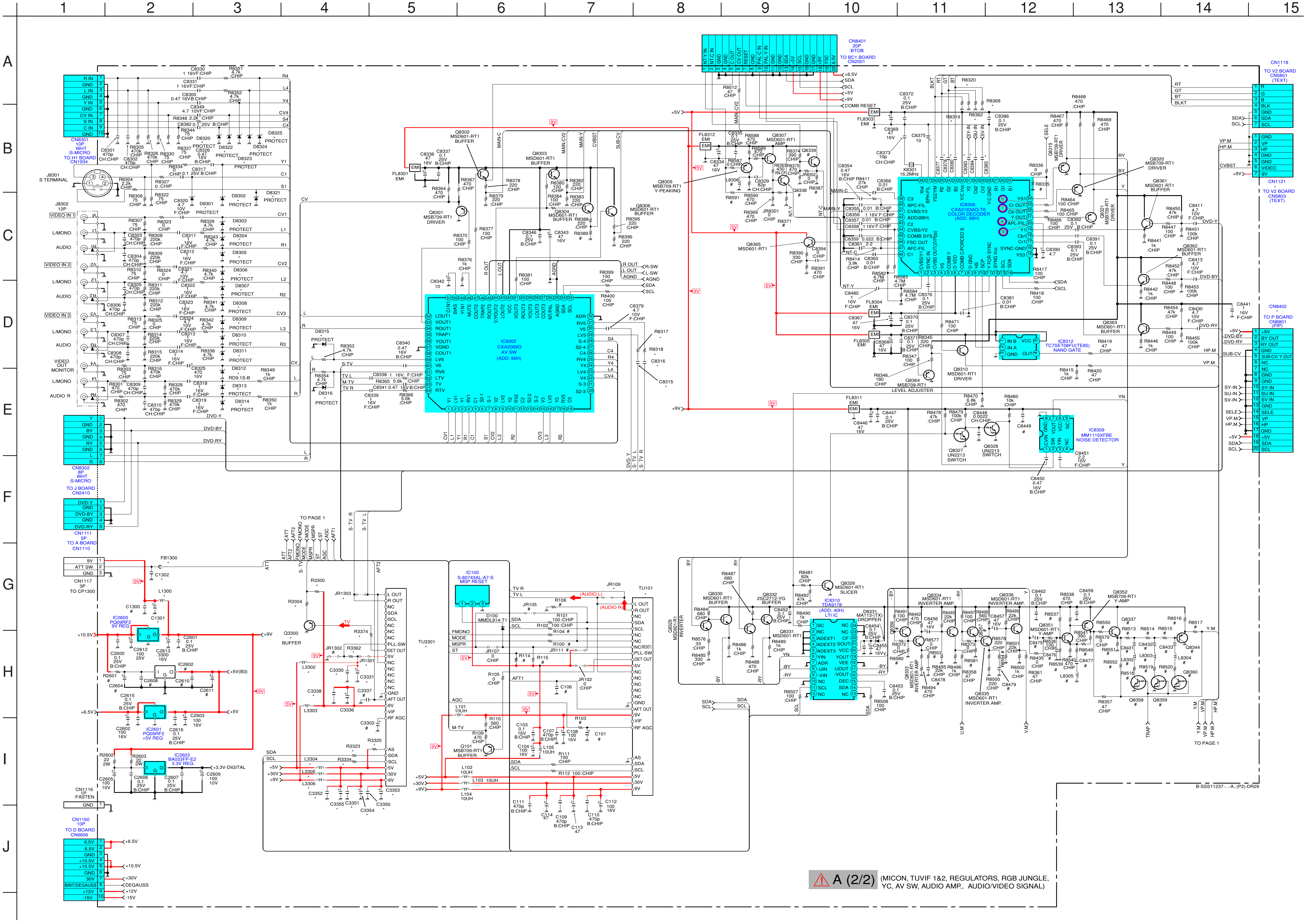
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ✻	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The component identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

KV-DR29M39/DR29M63/
KV-DR29M69/DR29M89
RM-991

(1) A Board Schematic Diagrams

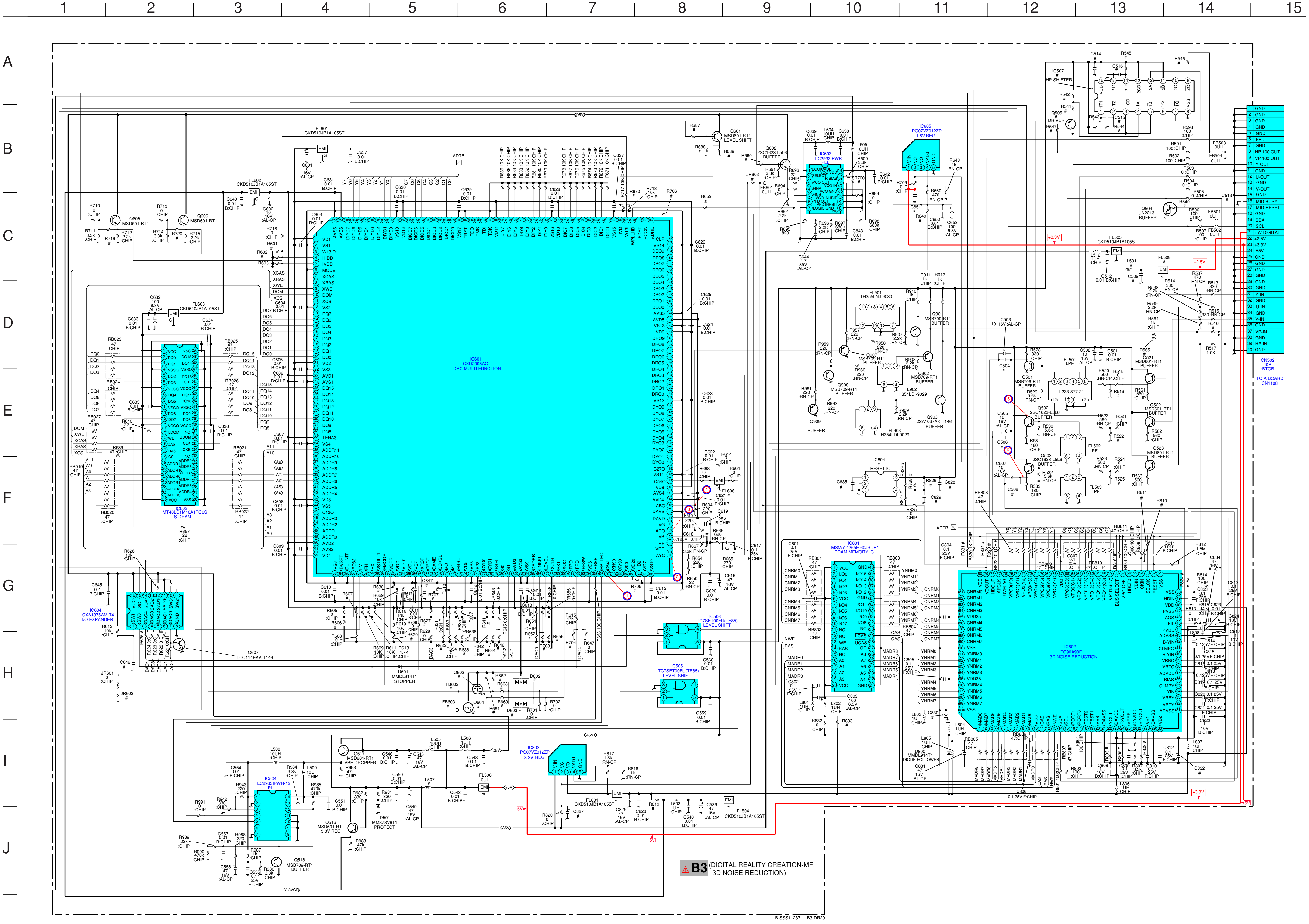




A (2/2) (MICON, TUVIF 1&2, REGULATORS, RGB JUNGLE, YC, AV SW, AUDIO AMP., AUDIO/VIDEO SIGNAL)

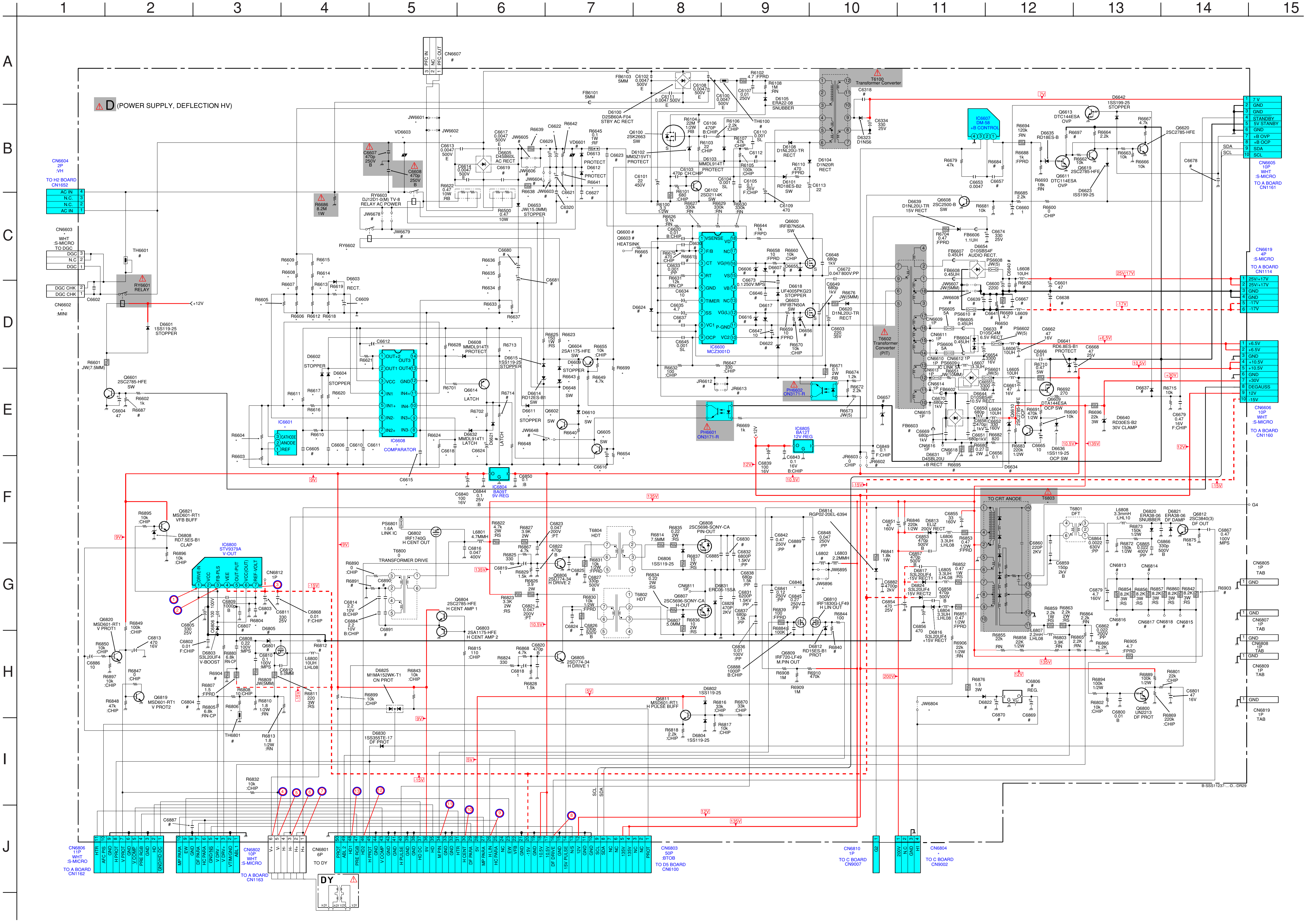
KV-DR29M39/DR29M63/
KV-DR29M69/DR29M89
RM-991

(2) B3 Board Schematic Diagram



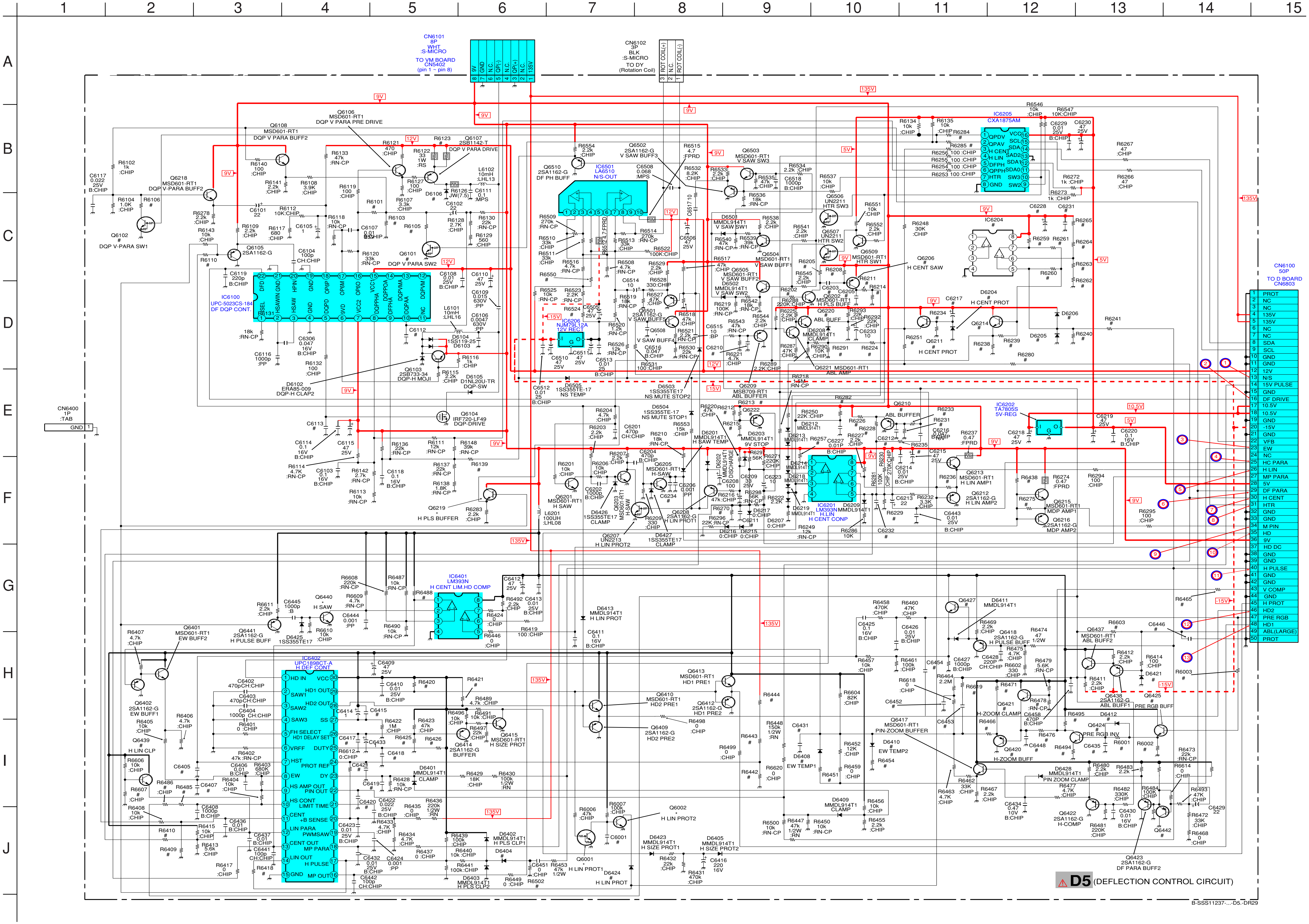
KV-DR29M39/DR29M63/
KV-DR29M69/DR29M89
RM-991

(3) D Board Schematic Diagram



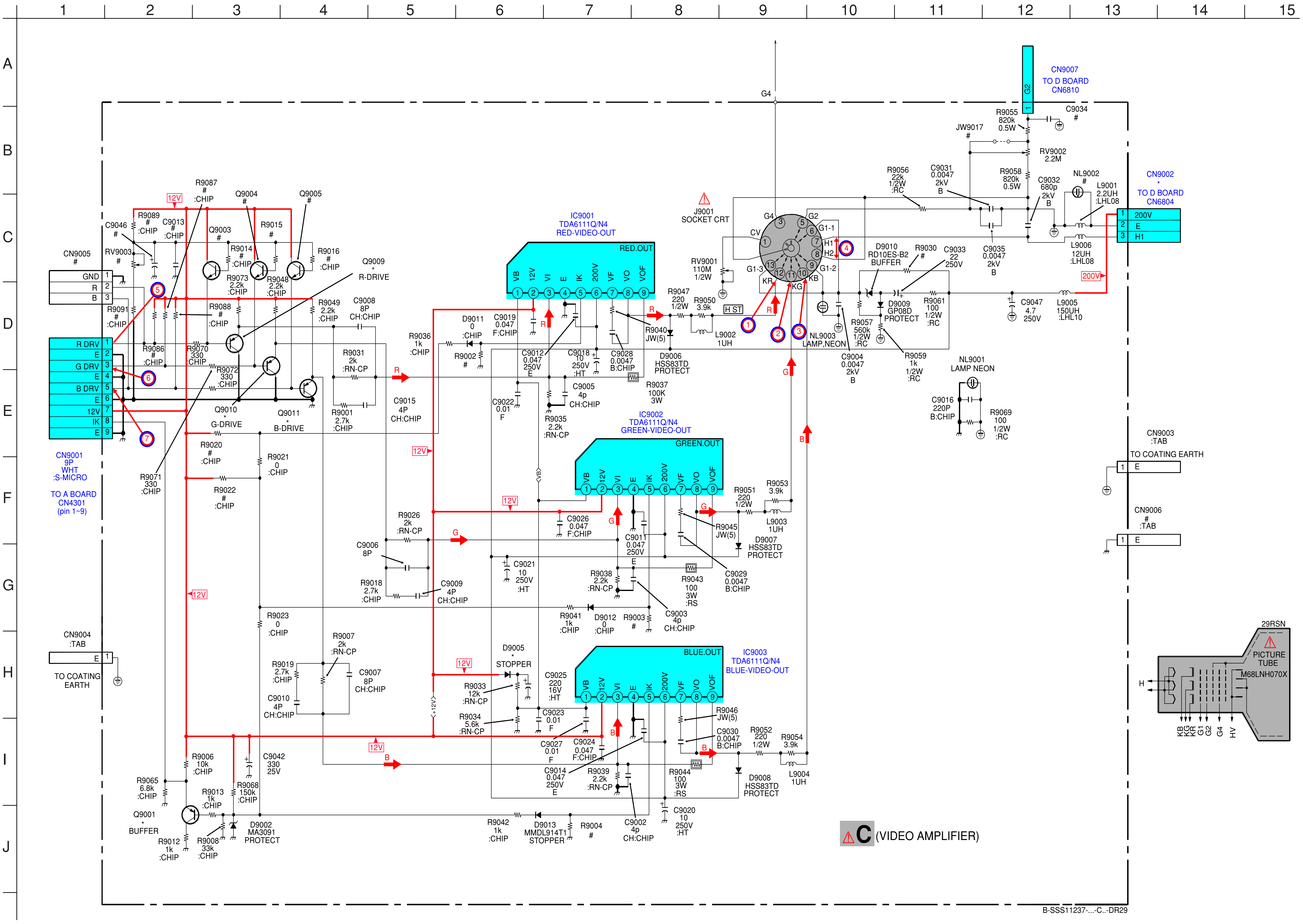
KV-DR29M39/DR29M63/
KV-DR29M69/DR29M89
RM-991

(4) D5 Board Schematic Diagram

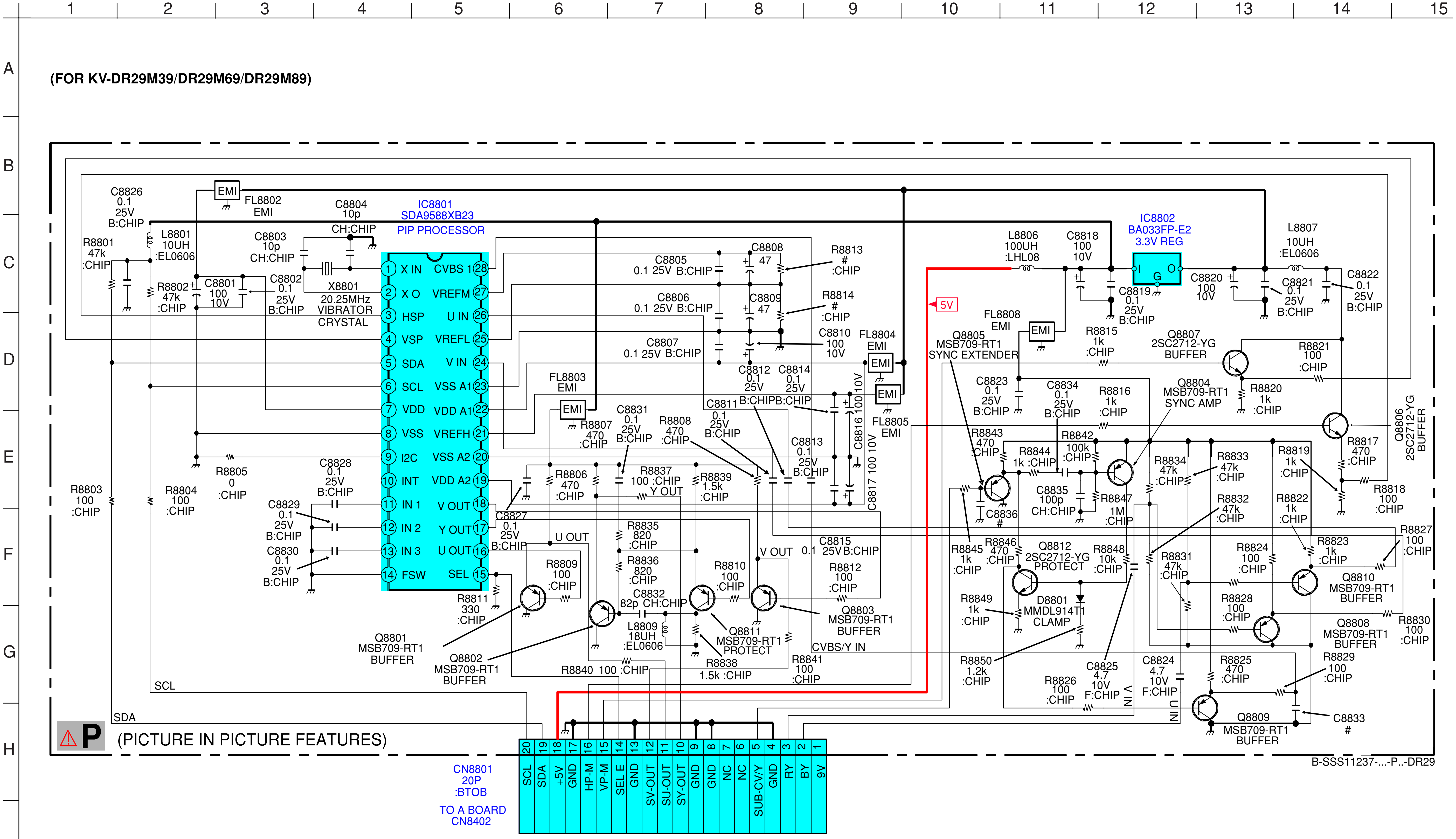


KV-DR29M39/DR29M63/
KV-DR29M69/DR29M89
RM-991

(5) C Board Schematic Diagram

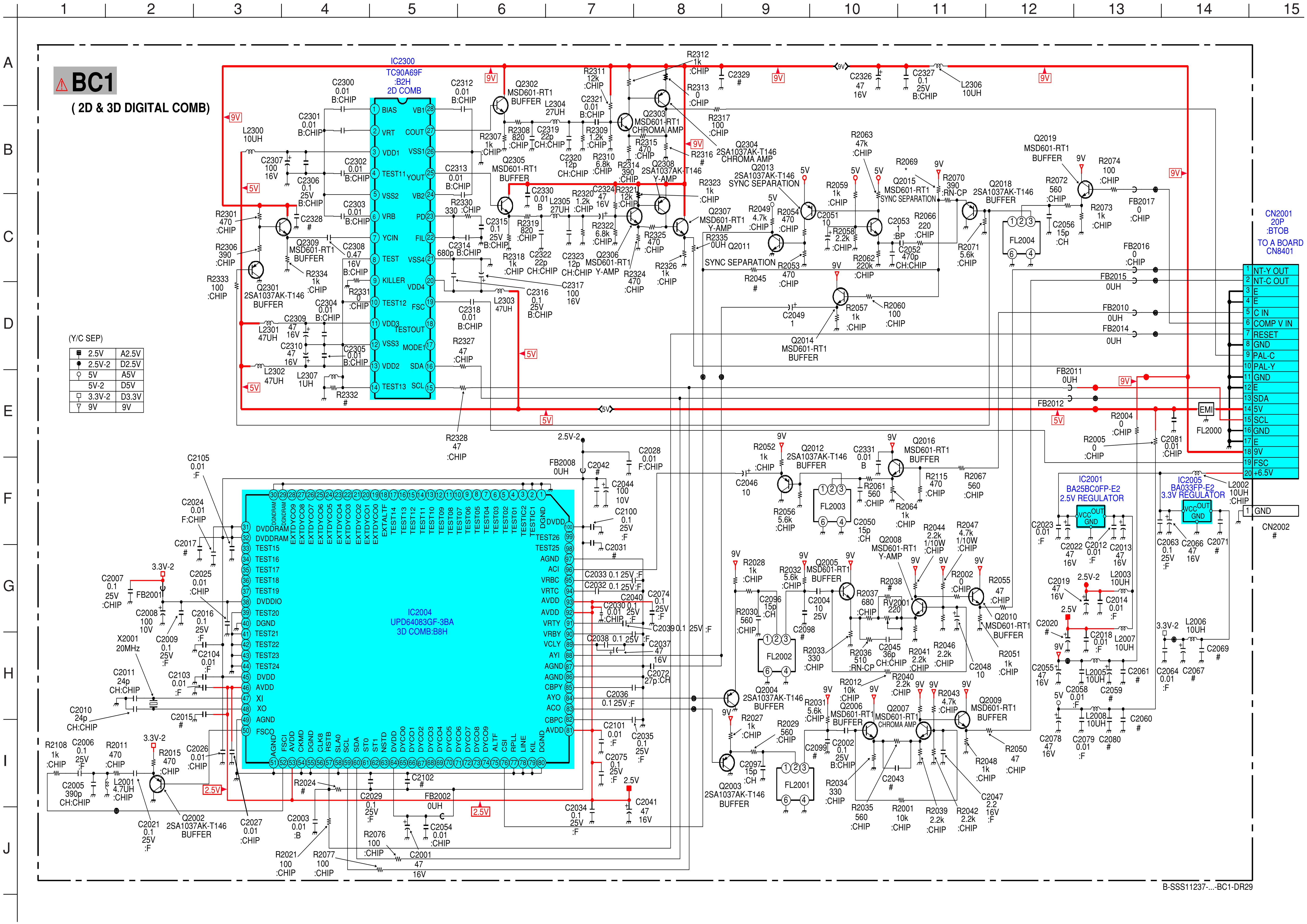


(6) P Board Schematic Diagram

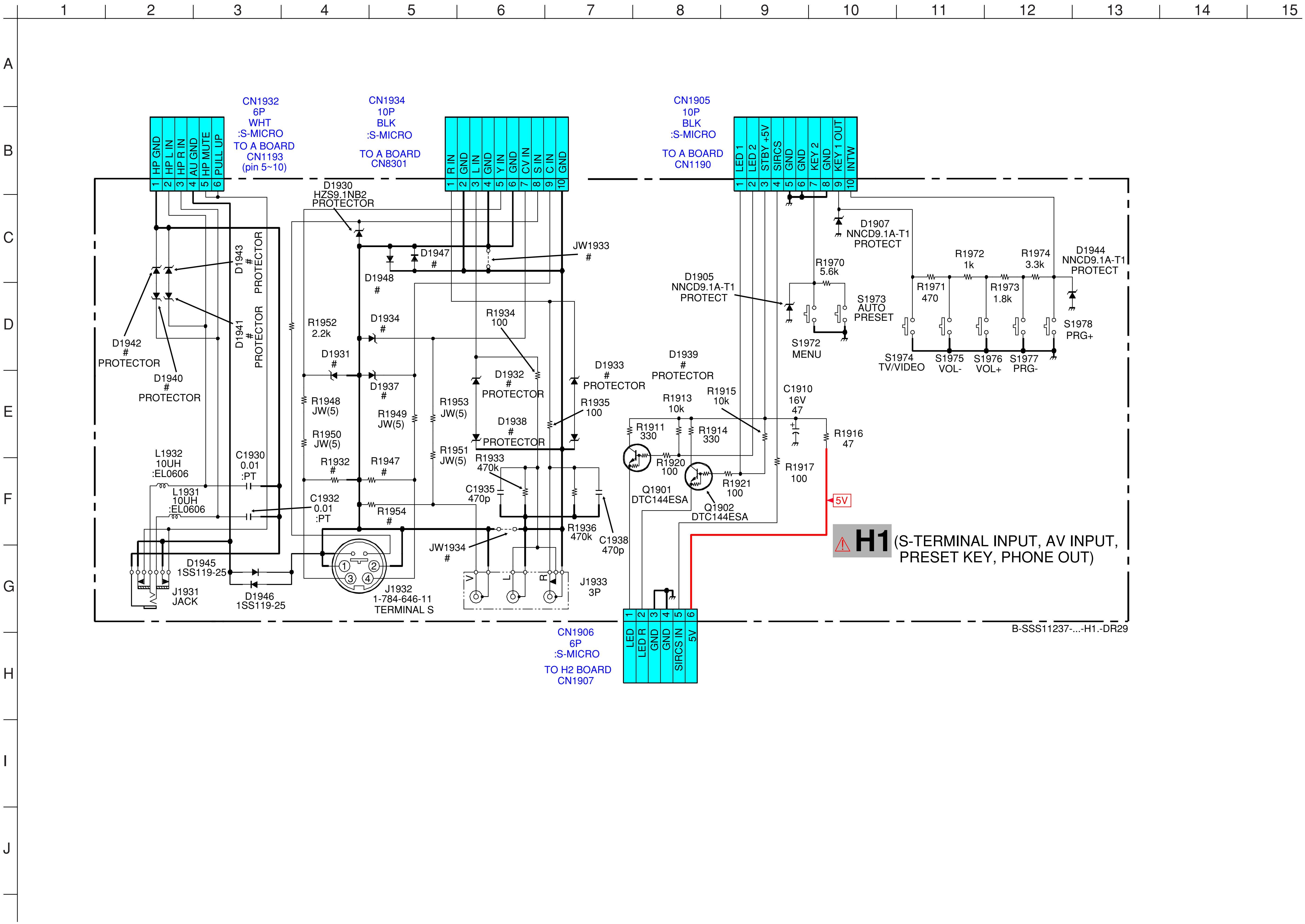


KV-DR29M39/DR29M63/
KV-DR29M69/DR29M89
RM-991

(7) BC1 Board Schematic Diagram

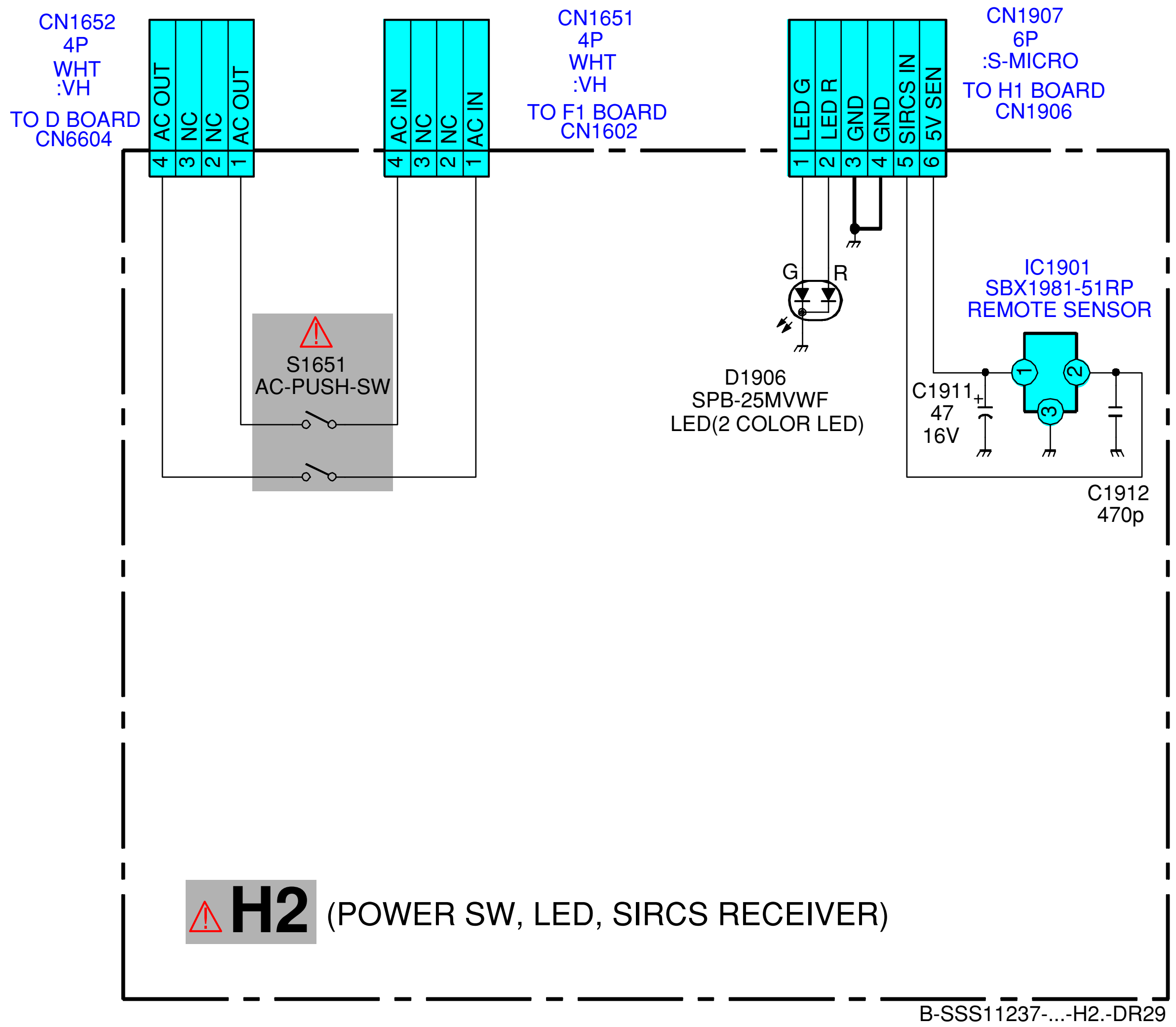


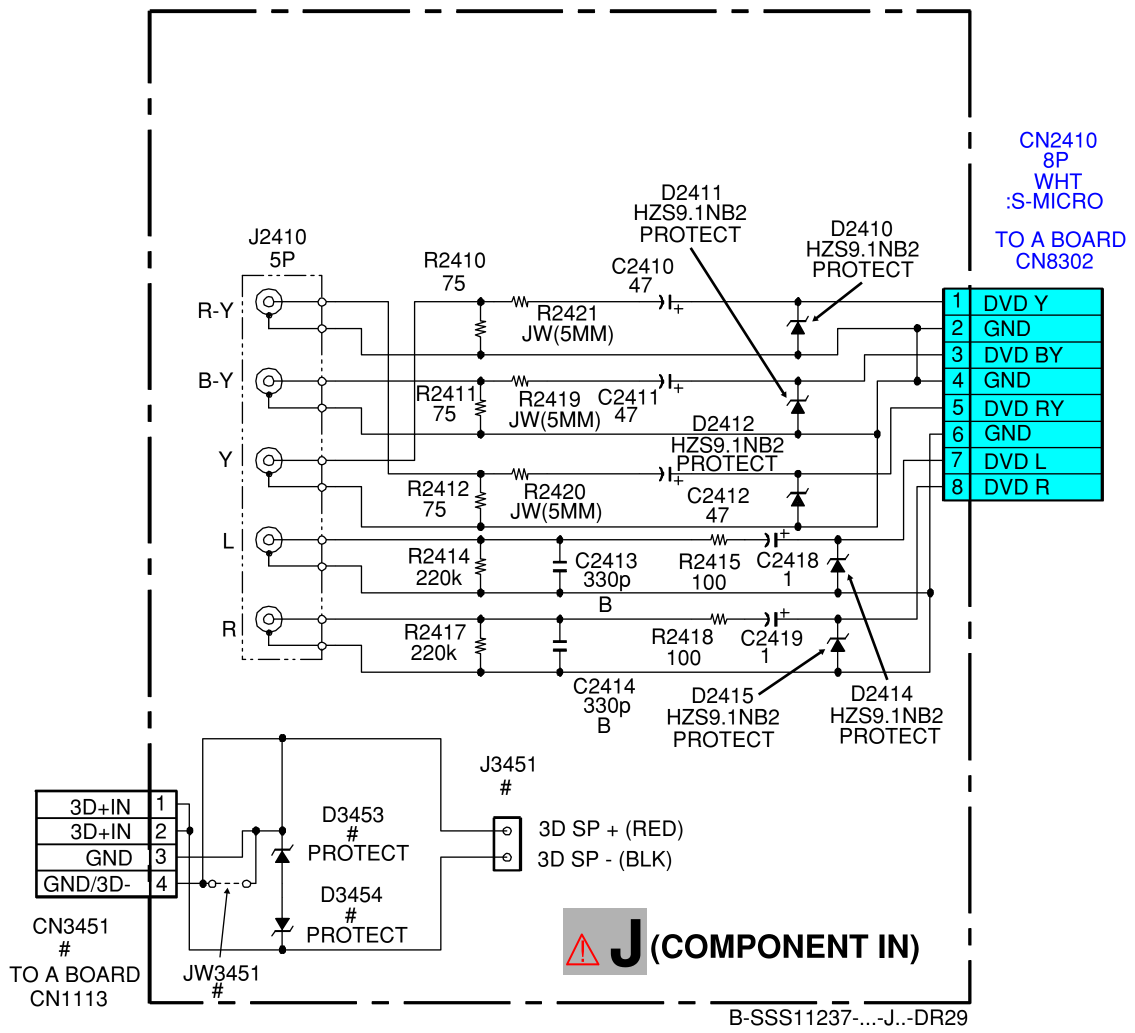
(8) H1 Board Schematic Diagram



KV-DR29M39/DR29M63/
KV-DR29M69/DR29M89
RM-991

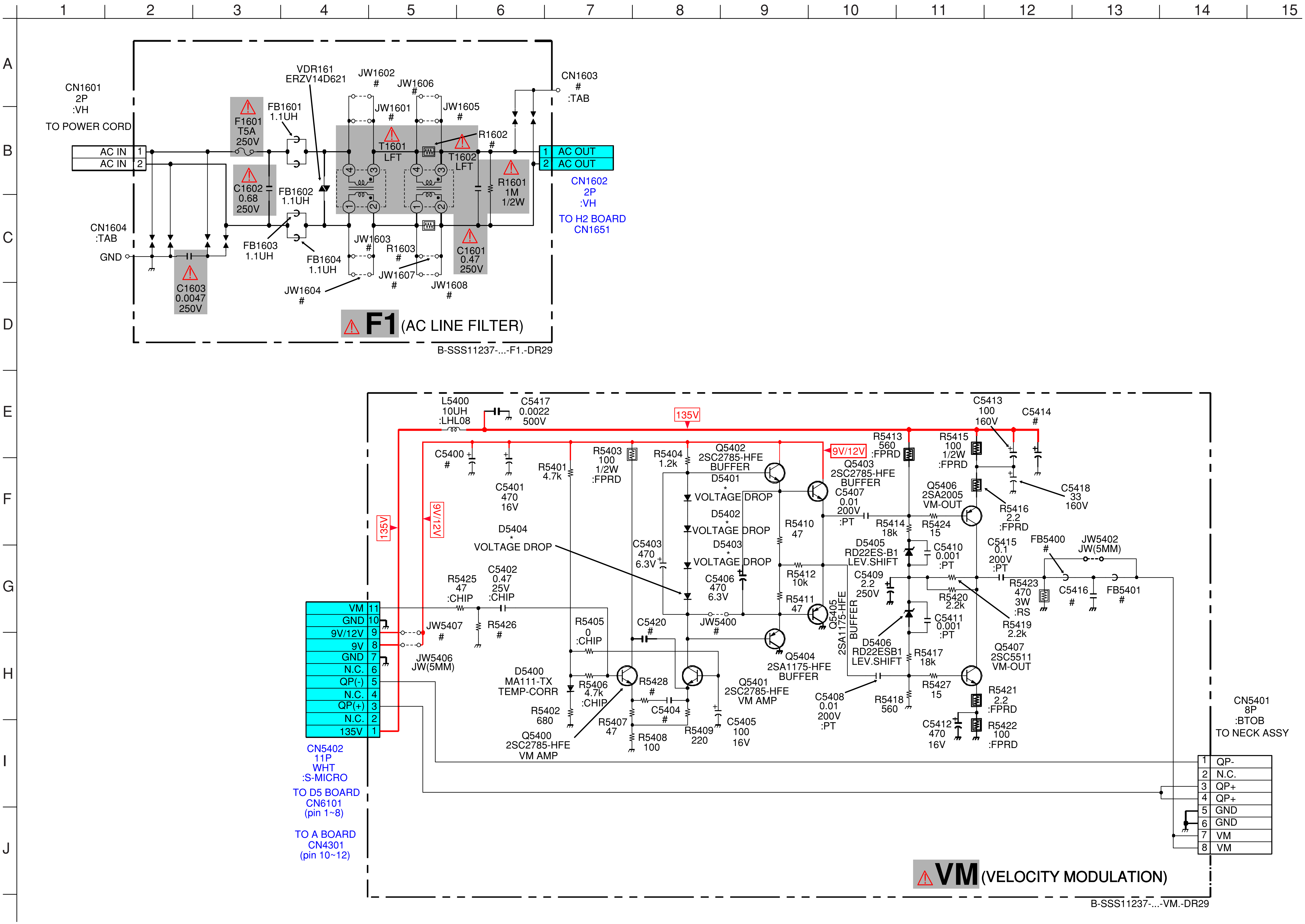
(9) H2 and J Boards Schematic Diagrams





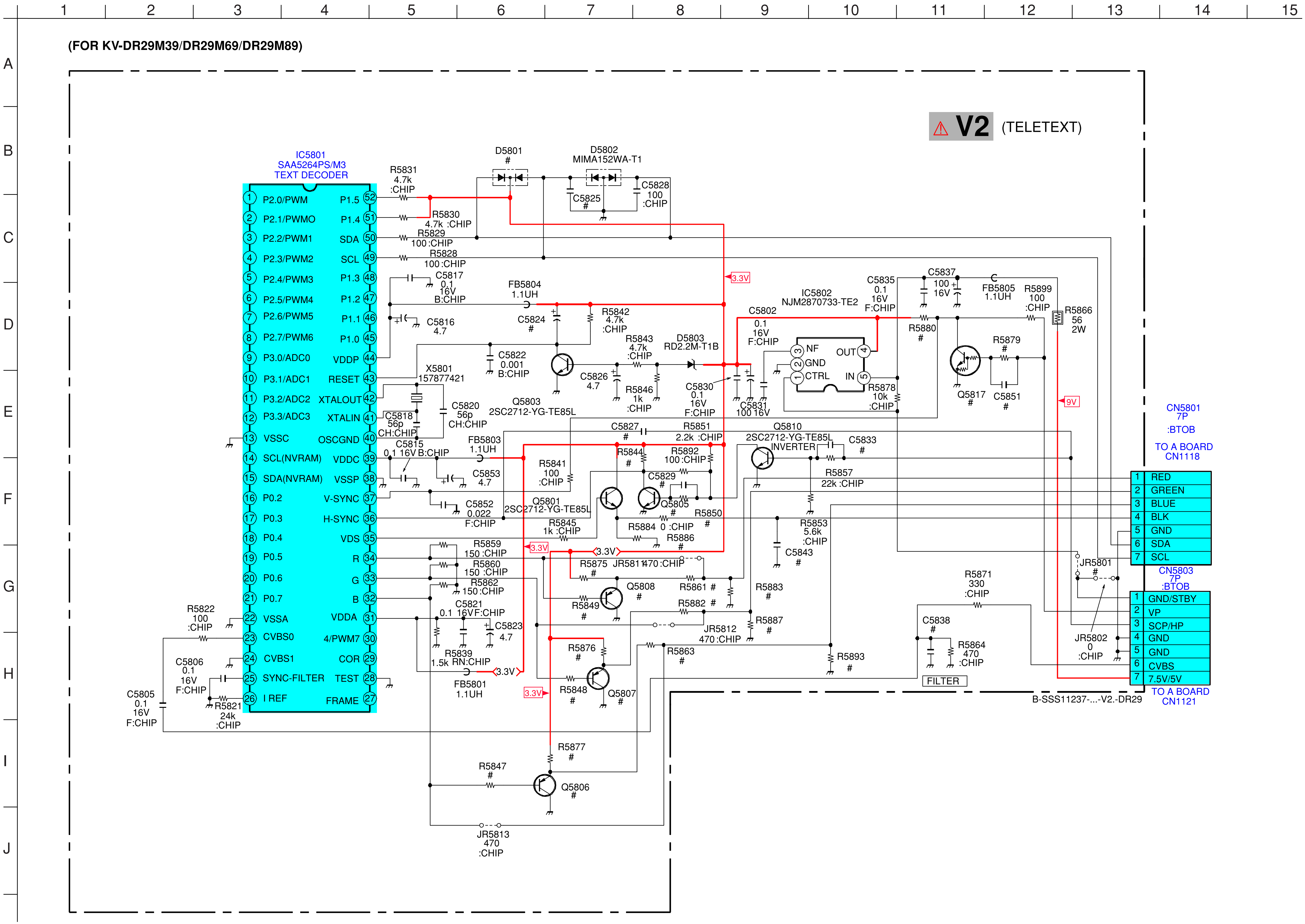
KV-DR29M39/DR29M63/
KV-DR29M69/DR29M89
RM-991

(10) F1 and VM Boards Schematic Diagrams



(11) V2 Board Schematic Diagram

(FOR KV-DR29M39/DR29M69/DR29M89)



A Board ✻ Mark List

	KV-DR29M39	KV-DR29M63	KV-DR29M69	KV-DR29M89
C1301	100 16V	#	100 16V	100 16V
C1302	0.1 :CHIP	#	0.1 :CHIP	0.1 :CHIP
C3330	0.1 16V :CHIP	#	0.1 16V :CHIP	0.1 16V :CHIP
C3331	100 16V	#	100 16V	100 16V
C3336	100 16V	#	100 16V	100 16V
C3338	470P :CHIP	#	470P :CHIP	470P :CHIP
C3350	470P :CHIP	#	470P :CHIP	470P :CHIP
C3351	470P :CHIP	#	470P :CHIP	470P :CHIP
C3352	470P :CHIP	#	470P :CHIP	470P :CHIP
C3353	100 16V	#	100 16V	100 16V
C3354	47	#	47	47
C3355	47	#	47	47
C8315	1 16V :CHIP	#	1 16V :CHIP	1 16V :CHIP
C8316	1 16V :CHIP	#	1 16V :CHIP	1 16V :CHIP
C8377	1 16V :CHIP	#	1 16V :CHIP	1 16V :CHIP
C8378	1 16V :CHIP	#	1 16V :CHIP	1 16V :CHIP
C8380	1 16V :CHIP	#	1 16V :CHIP	1 16V :CHIP
C8383	1 16V :CHIP	#	1 16V :CHIP	1 16V :CHIP
C8384	1 16V :CHIP	#	1 16V :CHIP	1 16V :CHIP
C8385	1 16V :CHIP	#	1 16V :CHIP	1 16V :CHIP
CN1118	7P :BTOB	#	7P :BTOB	7P :BTOB
CN8402	20P :BTOB	#	20P :BTOB	20P :BTOB
D1200	DTZ-TT11-16B	UDZS-TE17-16B	DTZ-TT11-16B	DTZ-TT11-16B
D2200	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D2201	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8301	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8302	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8303	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8304	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8305	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8306	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8307	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8308	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8309	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8310	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8311	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8312	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8313	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8314	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8315	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8316	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8320	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8321	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8322	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8323	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8324	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
D8325	RD9.1S-B	UDZS-TE179.1B	RD9.1S-B	RD9.1S-B
FB1300	0 :CHIP	#	0 :CHIP	0 :CHIP
IC003	BR24C16F-E2	M24C16-MN6T(A)	BR24C16F-E2	BR24C16F-E2
JR109	#	#	#	0 :CHIP
JR1301	0 :CHIP	#	0 :CHIP	0 :CHIP
JR1303	0 :CHIP	#	0 :CHIP	0 :CHIP
L1300	10UH	#	10UH	10UH
L3302	10UH	#	10UH	10UH
L3303	10UH	#	10UH	10UH
L3304	10UH	#	10UH	10UH
L3305	10UH	#	10UH	10UH
L3306	10UH	#	10UH	10UH
Q1205	2SC2712-YG	2SD601A-Q	2SC2712-YG	2SC2712-YG
Q1206	2SC2712-YG	2SD601A-Q	2SC2712-YG	2SC2712-YG
Q3300	MSB709-RT1	#	MSB709-RT1	MSB709-RT1
R3300	560 :CHIP	#	560 :CHIP	560 :CHIP
R3304	470 :CHIP	#	470 :CHIP	470 :CHIP
R3320	10K :CHIP	#	10K :CHIP	10K :CHIP
R3323	100 :CHIP	#	100 :CHIP	100 :CHIP
R3334	100 :CHIP	#	100 :CHIP	100 :CHIP
R3362	100 :CHIP	#	100 :CHIP	100 :CHIP
R3374	0 :CHIP	#	0 :CHIP	0 :CHIP
R8317	5.6K :CHIP	#	5.6K :CHIP	5.6K :CHIP
R8318	5.6K :CHIP	#	5.6K :CHIP	5.6K :CHIP
R8319	470 :CHIP	#	470 :CHIP	470 :CHIP
R8320	330 :CHIP	#	330 :CHIP	330 :CHIP

A Board ✲ Mark List

	KV-DR29M39	KV-DR29M63	KV-DR29M69	KV-DR29M89
R8362	330 :CHIP	#	330 :CHIP	330 :CHIP
R8368	330 :CHIP	#	330 :CHIP	330 :CHIP
TU101	BTF-WG442	BTF-WG441	BTF-WG442	BTF-LG434
TU3301	BTF-LG434	#	BTF-LG434	BTF-LG434

Note: The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

D Board ✲ Mark List

	KV-DR29M39	KV-DR29M63	KV-DR29M69	KV-DR29M89
C6602	0.033 630V	0.033 630V	#	#
C6606	#	#	100P :CHIP	100P :CHIP
C6609	#	#	1	1
C6610	#	#	100P :CHIP	100P :CHIP
C6611	#	#	1000P 25V :CHIP	1000P 25V :CHIP
C6612	10	10	#	#
C6615	100P :CHIP	100P :CHIP	#	#
C6616	2.2	2.2	#	#
C6618	0.01 16V :CHIP	0.01 16V :CHIP	#	#
C6621	#	#	1200 250V	1200 250V
C6622	#	#	1200 250V	1200 250V
C6624	33	33	#	#
C6629	560 450V	560 450V	#	#
C6846	0.18 250V :PP	0.18 250V :PP	#	#
C6885	220P 2KV :CHIP	220P 2KV :CHIP	#	#
CN6602	2P	#	2P	2P
CN6603	2P	2P	3P	3P
CN6804	3P	3P	#	#
D6602	#	#	MMDL914T1	MMDL914T1
D6603	#	#	MMDL914T1	MMDL914T1
D6604	#	#	MMDL914T1	MMDL914T1
D6609	#	#	1SS119-25	1SS119-25
D6610	#	#	MMDL914T1	MMDL914T1
D6611	#	#	MMDL914T1	MMDL914T1
D6612	#	#	UO5G	UO5G
D6613	#	#	UO5G	UO5G
D6648	#	#	RD12ES-B1	RD12ES-B1
IC6601	UPC1093J-1-T	UPC1093J-1-T	#	#
IC6608	UPC339C	UPC339C	#	#
JW6601	7.5MM	7.5MM	7.5MM	#
JW6602	7.5MM	7.5MM	7.5MM	#
JW6804	5MM	5MM	#	#
JW6895	7.5MM	7.5MM	#	#
JW6896	7.5MM	7.5MM	#	#
Q6602	#	#	2SC2785-HFE	2SC2785-HFE
Q6605	2SC2712-YG	2SC2712-YG	#	#
Q6614	2SA1175-HFE	2SA1175-HFE	#	#
R6603	10K :CHIP	10K :CHIP	#	#
R6604	10K :CHIP	10K :CHIP	#	#
R6605	#	#	120K :RN	120K :RN
R6606	#	#	75K :RN	75k :RN
R6607	#	#	680K :RN	680K :RN
R6608	#	#	680K :RN	680K :RN
R6609	#	#	680K :RN	680K :RN
R6610	#	#	100K :CHIP	100K :CHIP
R6611	4.7K :CHIP	4.7K :CHIP	#	#
R6612	#	#	120K :RN	120K :RN
R6613	#	#	680K :RN	680K :RN
R6614	#	#	680K :RN	680K :RN
R6615	#	#	680K :RN	680K :RN
R6616	#	#	100K :CHIP	100K :CHIP
R6617	#	#	390K :CHIP	390K :CHIP
R6618	#	#	75K :RN	75K :RN
R6619	#	#	470K :CHIP	470K :CHIP
R6620	#	#	470K :CHIP	470K :CHIP
R6621	#	#	10K :CHIP	10K :CHIP
R6623	#	#	150 1W :RS	150 1W :RS
R6624	100K :CHIP	100K :CHIP	#	#
R6628	10K :CHIP	10K :CHIP	#	#
R6633	36K :RN	36K :RN	#	#
R6634	680K :RN	680K :RN	#	#

D Board ✻ Mark List

	KV-DR29M39	KV-DR29M63	KV-DR29M69	KV-DR29M89
R6635	680K :RN	680K :RN	#	#
R6636	680K :RN	680K :RN	#	#
R6637	56K :RN	56K :RN	#	#
R6638	2.2	2.2	1.0 15W	1.0 15W
R6639	#	#	1.0 15W	1.0 15W
R6640	#	#	22K :CHIP	22K :CHIP
R6641	#	#	470K 1/2W	470K 1/2W
R6642	#	#	470K 1/2W	470K 1/2W
R6643	#	#	22K :CHIP	22K :CHIP
R6648	4.7K :CHIP	4.7K :CHIP	#	#
R6654	47K :CHIP	47K :CHIP	#	#
R6699	10K :CHIP	10K :CHIP	#	#
R6701	10K :CHIP	10K :CHIP	#	#
R6702	39K :CHIP	39K :CHIP	#	#
R6713	47K :CHIP	47K :CHIP	#	#
RY6602	#	#	“RELAY,AC POWER”	“RELAY,AC POWER”
VD6603	ERZV140621	ERZV140621	#	#

Note: The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

C Board ✻ Mark List

	KV-DR29M39	KV-DR29M63	KV-DR29M69	KV-DR29M89
CN9002	3P	4P	3P	3P
D9005	MA111-TX	MMDL914T1	MA111-TX	MA111-TX
Q9001	2SA1037AK-T146	MSB709-RT1	2SA1037AK-T146	2SA1037AK-T146
Q9009	2SA1037AK-T146	MSB709-RT1	2SA1037AK-T146	2SA1037AK-T146
Q9010	2SA1037AK-T146	MSB709-RT1	2SA1037AK-T146	2SA1037AK-T146
Q9011	2SA1037AK-T146	MSB709-RT1	2SA1037AK-T146	2SA1037AK-T146

Note: The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

D5 Board ✻ Mark List

	KV-DR29M39	KV-DR29M63	KV-DR29M69	KV-DR29M89
Q6001	DTC144EKA	UN2213	DTC144EKA	DTC144EKA
Q6002	2SD601A-Q-TX	MSD601-RT1	2SD601A-Q-TX	2SD601A-Q-TX
Q6219	2SD601A-Q-TX	MSD601-RT1	2SD601A-Q-TX	2SD601A-Q-TX
Q6440	2SD601A-Q-TX	MSD601-RT1	2SD601A-Q-TX	2SD601A-Q-TX
Q6508	2SD601A-Q-TX	MSD601-RT1	2SD601A-Q-TX	2SD601A-Q-TX

Note: The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

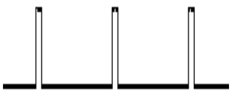
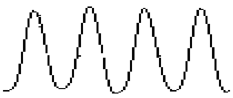
VM Board ✻ Mark List

	KV-DR29M39	KV-DR29M63	KV-DR29M69	KV-DR29M89
D5401	D1NS4	11EQS04	D1NS4	D1NS4
D5402	1SS119-25	1SS133T-77	1SS119-25	1SS119-25
D5403	1SS119-25	1SS133T-77	1SS119-25	1SS119-25
D5404	1SS119-25	1SS133T-77	1SS119-25	1SS119-25

Note: The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

7-3. VOLTAGE LIST AND WAVEFORM

A BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
IC001	1	4.9
	2	5.0
	3	0
	4	0
	5	0
	6	0
	7	0.4
	(1)  5.0Vp-p	
	8	0
	9	4.9
	10	0
	11	2.3
	(2)  3.2Vp-p	
	12	2.3
	13	4.9
	14	4.8
	15	0.9
	16	0.9
	17	(2.4)[3.1]
	18	3.1
	19	4.9
	20	0.9
	21	4.8
	22	0
	23	0
	24	4.8
	25	0
	26	0
	27	4.9
	28	0
	29	4.7
	30	4.9
	31	4.7
	32	0
	(3) 416mVp-p	
	33	0
	(4) 384mVp-p	
	34	0
	(5) 384mVp-p	
	35	4.9
	36	0
	37	0
	38	2.4
	39	2.4
	40	4.7
	41	4.9
	42	0
	43	0
	44	0
	45	0
	46	0
	47	4.9
	48	4.4
	49	4.9
	50	4.4
	51	0
	52	0
	53	0
	54	0
	55	0
	56	0
	57	0.8
	58	0
	59	0
	60	0
	61	0
	62	4.3
	63	0
	64	4.8
IC002	1	0
	2	4.9
	3	4.9
	4	7.1
	5	4.9
	6	0
	7	0.9
IC003	1	0
	2	0
	3	0
	4	0
	5	4.9
	6	4.9
	7	0
	8	4.9
IC100	1	4.9
	2	4.9
	3	0
IC1200	1	4.5
	2	4.5
	3	4.5
	4	0
	5	4.5
	6	4.5
	7	4.5
	8	8.9
IC1201	1	0
	2	0
	3	0
	4	4.4
	5	4.4
	6	0
	7	4.4
	8	4.4
	9	4.4
	10	4.4
	11	4.4
	12	4.4
	13	0
	14	2.5
	15	8.9
	16	0
	17	4.5
	18	4.3
	19	2.5
	20	0
	21	4.4
	22	4.4
	23	4.4
	24	4.4
	25	4.4
	26	4.4
	27	4.4
	28	4.4
	29	4.4
	30	4.4
	31	3.2
	32	4.4
IC1203	1	4.5
	2	4.5
	3	4.4
	4	0
	5	4.4
	6	4.5
	7	4.5
	8	8.9
IC1204	1	0
	2	0
	3	28.0
	4	0
	5	0
	6	2.9
	7	14.0
	8	2.9
	9	0
	10	29.0
	11	14.0
	12	14.0
IC1205	1	4.5
	2	4.5
	3	0
	4	4.5
	5	4.8
	6	0.5
	7	0
	8	0.5
	9	0.5
	10	0
	11	0.5
	12	0.5
	13	4.9
	14	8.9
IC1207	1	4.4
	2	4.5
	3	4.5
	4	4.5
	5	4.6
	6	4.5
	7	4.5
	8	4.5
	9	4.5
	10	4.5
	11	4.5
	12	4.5
	13	4.5
	14	0.7
	15	3.1
	16	3.3
	17	3.3
	18	*
	19	*
	20	*
	21	9.0
	22	7.6
	23	3.3
	24	3.1
	25	3.4
	26	3.0
	27	0.6
	28	4.6

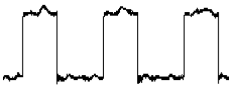
A BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
	29	4.6
	30	4.5
	31	4.6
	32	4.6
	33	4.5
	34	4.5
	35	4.5
	36	4.5
	37	4.5
	38	4.5
	39	4.5
	40	4.5
IC1208	1	0
	2	0
	3	8.9
	4	4.4
	5	4.4
	6	4.5
	7	4.5
	8	0
	9	4.4
	10	4.4
	11	4.4
	12	4.4
	13	4.4
	14	4.74
	15	4.4
	16	4.4
IC2200	1	4.5
	2	4.5
	3	4.4
	4	0
	5	4.3
	6	4.4
	7	4.5
	8	8.9
IC2600	I	10.0
	G	0
	O	9.0
IC2601	I	6.3
	G	0
	O	5.0
IC2602	I	9.5
	G	0
	O	4.9
IC2603	I	5.6
	G	0
	O	3.3
IC3001	1	2.8
	2	2.8
	3	2.7
	4	0
	5	1.1
	6	0
	7	2.8
	8	2.8
	9	2.8
	10	1.1
	11	1.1
	12	5.0
	13	4.1
	14	4.0
	15	2.9
	16	2.7
	17	0
	18	1.0
	19	0
	20	2.9
	21	0
	22	0.3
	23	0
	24	0
	25	2.8

Ref	Pin No.	Voltage[v]
	26	2.8
	27	3.1
	28	5.0
	29	0
	30	4.3
	31	4.3
	32	2.5
	33	2.9
	34	2.9
	35	2.8
	36	1.3
	37	1.0
	38	1.1
	39	2.5
	40	5.0
	41	2.8
	42	2.8
	43	2.8
	44	1.1
	45	1.1
	46	(1.2)[0.8]
	47	2.5
	48	0
IC3002	1	0
	2	0
	3	0.5
	4	0.5
	5	0.5
	6	0
	7	0
	8	0
	9	4.9
	10	4.9
	11	4.9
	12	0.3
	13	0.3
	14	0.3
	15	0
	16	8.9
IC3003	1	4.6
	2	0
	3	3.1
	4	0
	5	3.1
	6	3.1
	7	0
	8	4.6
	9	4.6
	10	0
	11	4.6
	12	0
	13	8.9
	14	4.7
	15	0
	16	4.6
IC4301	1	0
	2	0
	3	0
	4	3.1
	5	3.1
	6	3.1
	7	0
	8	3.5
	9	3.5
	10	3.5
	11	0
	12	0
	13	0
	14	2.4
	15	4.9
	16	2.5
	17	2.6
	18	1.2
	19	4.9

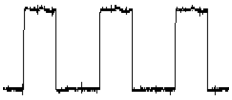
Ref	Pin No.	Voltage[v]
	20	3.6
	21	0
	22	3.4
	23	5.0
	24	0
	25	4.5
	26	4.5
	27	0.9
	28	0.3
	29	5.0
	30	5.7
	31	1.3
	32	3.1
	33	1.6
	34	0
	35	0.8
	36	0.8
	37	3
	38	2.1
	39	0.6
	40	2.8

(10) PAL



4.5Vp-p

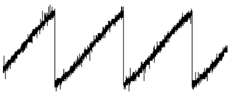
(10) NTSC3.58



4.0Vp-p

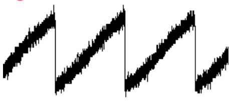
	Pin No.	Voltage[v]
	41	0
	42	0
	43	3.3
	44	0
	45	3.4
	46	3.3
	47	3.1
	48	4.4
	49	4.7
	50	5.2
	51	3.8
	52	3.4

(11) PAL



1.7Vp-p

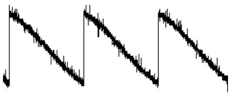
(11) NTSC3.58



1.9Vp-p

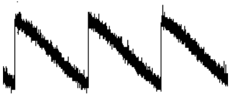
	Pin No.	Voltage[v]
	53	3.4

(12) PAL



1.8Vp-p

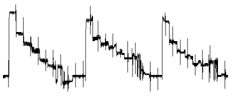
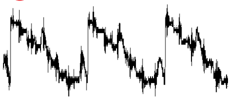
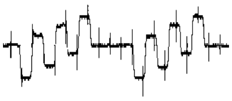
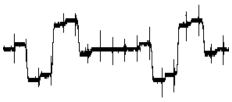
(12) NTSC3.58



2.0Vp-p

A BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
	54	0.6
	55	8.9
	56	1.0
	57	4.3
	58	4.4
	59	1.7
	60	1.7
	61	8.9
	62	2.2
	63	2.2
	64	2.3
IC4302	I	8.9
	G	0
	O	4.9
IC4304	1	7.8
	2	1.1
	3	1.2
	4	0
	5	0.8
	6	0.8
	7	2.9
	8	8.9
IC8302	1	3.9
	2	4.4
	3	3.9
	4	4.4
	5	4.4
	6	0.1
	7	4.9
	8	3.9
	9	4.4
	10	3.9
	11	4.4
	12	4.4
	13	0.1
	14	4.9
	15	3.9
	16	4.4
	17	3.9
	18	4.4
	19	4.4
	20	0.1
	21	4.9
	22	3.9
	23	4.4
	24	3.9
	25	4.4
	26	4.4
	27	0.1
	28	4.9
	29	4.4
	30	3.9
	31	4.4
	32	0
	33	4.4
	34	4.4
	35	0
	36	0
	37	4.4
	38	4.4
	39	3.7
	40	4.4
	41	4.5
	42	8.9
	43	4.4
	44	4.2
	45	4.4
	46	3.7
	47	4.4
	48	0
	49	3.9
	50	4.4

Ref	Pin No.	Voltage[v]
	51	4.4
	52	4.4
	53	4.4
	54	0
	55	3.7
	56	3.2
	57	0
	58	4.3
	59	4.4
	60	4.3
	61	4.4
	62	4.4
	63	4.3
	64	4.4
IC8306	1	2.2
	2	1.8
	3	1.2
	4	0.1
	5	2.2
	6	5.0
	7	2.5
	8	0
	9	0.3
	10	0.8
	11	2.3
	12	5.0
	13	4.5
	14	4.5
	15	0
	16	0
	17	2.5
	18	2.5
	19	1.3
	20	2.3
	⑨ 600mVp-p	
	21	1.7
	⑧ PAL  1.2Vp-p	
	⑧ NTSC3.58  960mVp-p	
	22	1.8
	⑦  1.0Vp-p	
	23	1.8
	⑥  1.1Vp-p	
	24	0
	25	2

Ref	Pin No.	Voltage[v]
	26	1.9
	27	1.9
	28	0
	29	0
	30	2.5
	31	1.7
	32	5.0
	33	2.5
	34	2.5
	35	2.5
	36	0
	37	1.1
	38	4.0
	39	1.7
	40	3.1
	41	2.3
	42	0
	43	1.7
	44	2.3
	45	0
	46	3.1
	47	3.8
	48	1.7
IC8309	1	3.0
	2	5.3
	3	2.7
	4	0
	5	0
	6	8.9
	7	2.0
	8	0
IC8310	1	0.8
	2	0
	3	0
	4	0
	5	0
	6	2.1
	7	0
	8	4.7
	9	5.5
	10	0
	11	4.4
	12	0
	13	0
	14	4.4
	15	5.1
	16	2.7
	17	2.7
	18	0
	19	3.1
	20	8.2
	21	2.4
	22	1.1
	23	0
	24	0
IC8312	1	5.0
	2	0.3
	3	0
	4	0.3
	5	5.0
Q001	B	4.8
	C	0
	E	0.9
Q002	B	0
	C	4.9
	E	0
Q003	B	0.3
	C	4.9
	E	0.3
Q004	B	0.1
	C	0
	E	0

A BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
Q008	B	0	Q3300	B	3.7	Q4323	B	4.0
	C	0.2		C	0		C	8.9
	E	0		E	4.3		E	3.4
Q101	B	2.8	Q3015	B	1.9	Q4324	B	4.0
	C	0		C	4.9		C	8.9
	E	3.4		E	1.1		E	3.4
Q301	B	10.0	Q3018	B	1.9	Q4330	B	6.7
	C	0		C	4.9		C	0
	E	10.0		E	1.1		E	7.3
Q302	B	10.7	Q3024	B	4.4	Q4333	B	0
	C	(0)[-0.3]		C	0.1		C	2.8
	E	10.4		E	5.0		E	0
Q313	B	0	Q3025	B	0.1	Q8301	B	4.4
	C	10.0		C	5.0		C	0
	E	0.5		E	0		E	5.0
Q1200	B	2.4	Q4301	B	5.7	Q8302	B	4.3
	C	0.5		C	8.9		C	8.9
	E	0		E	5.0		E	3.7
Q1201	B	2.4	Q4304	B	0	Q8303	B	4.3
	C	0.4		C	3.1		C	8.9
	E	0		E	0		E	3.7
Q1202	B	2.4	Q4305	B	1.7	Q8304	B	4.3
	C	0		C	6.7		C	8.9
	E	0		E	1.1		E	3.7
Q1203	B	3.1	Q4306	B	6.4	Q8305	B	2.3
	C	4.9		C	0		C	5.0
	E	2.4		E	7.0		E	1.6
Q1205	B	5.6	Q4307	B	7.1	Q8306	B	3.9
	C	8.9		C	8.9		C	8.9
	E	4.9		E	6.4		E	4.6
Q1206	B	2.8	Q4308	B	6.4	Q8307	B	6.0
	C	5.6		C	7.0		C	(0)[8.9]
	E	2.2		E	7.1		E	5.4
Q1207	B	14.3	Q4309	B	0	Q8310	B	0.1
	C	-0.5		C	0		C	5
	E	12.4		E	0.7		E	0.1
Q1208	B	-0.4	Q4310	B	-0.5	Q8319	B	1.8
	C	13.6		C	8.9		C	0
	E	0		E	0		E	2.4
Q1209	B	-0.4	Q4312	B	0	Q8320	B	1.8
	C	13.6		C	0		C	0
	E	0		E	0		E	2.5
Q1210	B	-0.4	Q4314	B	2.9	Q8321	B	1.7
	C	13.7		C	4.1		C	0
	E	0		E	2.9		E	2.3
Q2200	B	3.7	Q4315	B	0	Q8326	B	0.2
	C	0		C	4.2		C	3.5
	E	0		E	0		E	0
Q2201	B	3.7	Q4316	B	2.3	Q8327	B	3.6
	C	0		C	0		C	0.2
	E	0		E	2.9		E	0
Q3001	B	2.4	Q4317	B	2.1	Q8328	IB	0.2
	C	5.0		C	0		C	5.3
	E	1.7		E	2.8		E	0
Q3002	B	2.4	Q4318	B	2.2	Q8329	B	2.5
	C	5.0		C	0		C	5.4
	E	1.7		E	2.8		E	1.8
Q3003	B	2.4	Q4319	B	4.2	Q8330	B	5.4
	C	5.0		C	0		C	8.9
	E	1.7		E	4.4		E	4.7
Q3004	B	2.4	Q4320	B	2.2	Q8331	B	2.5
	C	5.0		C	8.9		C	6.2
	E	1.7		E	4.4		E	1.8
Q3005	B	3.4	Q4321	B	2.5	Q8332	B	6.2
	C	4.5		C	0		C	8.9
	E	2.9		E	3.1		E	5.5
Q3014	B	2.9	Q4322	B	3.3	Q8333	B	2.7
	C	0		C	4.0		C	6.8
	E	3.5		E	4.0		E	2.1

A BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
Q8334	B	4.3	Q8361	B	3.1
	C	8.9		C	5.0
	E	3.6		E	2.5
Q8335	B	2.7	Q8362	B	3.1
	C	6.3		C	5.0
	E	2.1		E	2.5
Q8336	B	4.3	Q8363	B	3.1
	C	8.9		C	5.0
	E	3.7		E	2.5
Q8351	B	3.1	Q8364	B	1.3
	C	8.3		C	0
	E	2.5		E	2.0
Q8352	B	8.3	Q8365	B	(2.2)[3.1]
	C	4.3		C	5.0
	E	8.9		E	(1.5)[2.4]
Q8356	B	8.3			
	C	4.0			
	E	8.9			

VM BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
Q5400	B	1.5
	C	8.4
	E	0.9
Q5401	B	1.6
	C	5.0
	E	1.0
Q5402	B	7.0
	C	8.9
	E	6.3
Q5403	B	6.3
	C	8.9
	E	6.0
Q5404	B	5.0
	C	0
	E	5.6
Q5405	B	5.6
	C	0
	E	6.0
Q5406	B	134
	C	68
	E	135
Q5407	B	1.3
	C	68
	E	0.8

H1 BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
Q1901	B	0.2
	C	4.9
	E	0.2
Q1902	B	(4.4)[0.1]
	C	(1.9)[4.9]
	E	(1.7)[0.1]

H2 BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
IC1901	1	4.9
	2	(4.8)[4.5]
	3	0

D5 BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
IC6100	1	5.7
	2	2.5
	3	4.3
	4	0
	5	5.0
	6	6.8
	7	8.9
	8	5.0
	9	4.2
	10	2.5
	11	0
	12	0
	13	0
	14	1.1
	15	11.8
	16	8.8
	17	2.0
	18	2.0
	19	0
	20	4.7
	21	0
	22	1.1
IC6201	1	0.1
	2	8.9
	3	1.5
	4	0
	5	(8.9)[2.4]
	6	(2.0)[4.0]
	7	(4.1)[2.2]
	8	(2.3)[8.9]
IC6202	I	10.3
	G	0
	O	5.0
IC6204	1	7.1
	2	1.4
	3	2.4
	4	0
	5	0.2
	6	1.8
	7	1.0
	8	8.9
IC6205	1	5.0
	2	5.0
	3	2.9
	4	(3.2)[4.2]
	5	2.4
	6	2.4
	7	(3.1)[2.6]
	8	0
	9	(0)[2.7]
	10	(2.8)[0]
	11	5.0
	12	5.0
	13	0
	14	4.5
	15	4.4
	16	5.0
IC6206	I	-15
	G	0
	O	-12
IC6401	1	0
	2	(0.8)[1.3]
	3	(0.8)[1.3]
	4	0
	5	2.0
	6	2.8
	7	4.8
	8	8.9
IC6402	1	4.9
	2	2.7
	3	3.5
	4	1.3

Ref	Pin No.	Voltage[v]
	5	0
	6	3.0
	7	3.7
	8	3.7
	9	3.2
	10	3.1
	11	2.4
	12	2.3
	13	1.3
	14	1.0
	15	0
	16	3.2
	17	1.8
	18	3.4
	19	2.6
	20	5.3
	21	2.6
	22	0.9
	23	1.1
	24	5.63
	25	4.2
	26	3.9
	27	2.7
	28	3.9
	29	3.8
	30	8.9
IC6501	1	-11.4
	2	-11.4
	3	-2.8
	4	-2.8
	5	-14.2
	6	-1.8
	7	-1.8
	8	6.7
	9	6.5
	10	11.1
Q6001	B	1.9
	C	0.3
	E	0
Q6002	B	0
	C	1.1
	E	0
Q6101	B	5.0
	C	0
	E	0
Q6102	B	(2.5)[5.0]
	C	0
	E	0
Q6103	B	8.7
	C	2.5
	E	8.9
Q6104	G	5.0
	D	23.5
	S	0
Q6105	B	1.1
	C	0
	E	1.8
Q6106	B	8.8
	C	10.7
	E	8.2
Q6107	B	8.2
	C	1.1
	E	8.7
Q6108	B	3.1
	C	8.9
	E	2.5
Q6201	B	0.4
	C	4.9
	E	0
Q6202	B	0.3
	C	6.5
	E	0

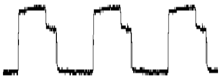
Ref	Pin No.	Voltage[v]
Q6203	B	-0.5
	C	2.4
	E	0
Q6205	B	0
	C	(3.7)[4.1]
	E	0
Q6206	B	9.0
	C	2.9
	E	8.9
Q6207	B	0
	C	2.5
	E	0
Q6208	B	8.9
	C	0
	E	8.8
Q6209	B	0
	C	0
	E	-1.5
Q6210	B	0
	C	0
	E	-1.4
Q6211	B	0
	C	8.9
	E	2.4
Q6212	B	1.0
	C	0
	E	1.4
Q6213	B	1.7
	C	8.9
	E	1.8
Q6214	B	1.0
	C	8.9
	E	1.0
Q6215	B	3.2
	C	8.9
	E	3.3
Q6216	B	3.2
	C	0
	E	3.3
Q6218	B	1.5
	C	8.9
	E	0.9
Q6401	B	4.4
	C	8.9
	E	3.8
Q6402	B	3.8
	C	0
	E	4.4
Q6409	B	4.0
	C	0
	E	4.1
Q6410	B	4.0
	C	8.9
	E	4.1
Q6412	B	3.9
	C	0
	E	3.9
Q6413	B	3.9
	C	8.9
	E	3.9
Q6414	B	3.9
	C	0
	E	4.5
Q6415	B	0.7
	C	0
	E	0
Q6417	B	3.2
	C	8.9
	E	2.6

D5 BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
Q6418	B	0.2
	C	0
	E	0.8
Q6419	B	3.8
	C	8.9
	E	3.2
Q6420	B	7.1
	C	0
	E	7.7
Q6421	B	7.6
	C	8.9
	E	7.1
Q6422	B	2.4
	C	0
	E	3.1
Q6423	B	2.6
	C	0
	E	3.2
Q6424	B	1.2
	C	6.6
	E	(0)[0.6]
Q6425	B	1.6
	C	8.9
	E	1.1
Q6427	B	0.8
	C	8.9
	E	3.7
Q6437	B	2.6
	C	8.9
	E	2.0
Q6438	B	2.0
	C	-15
	E	2.6
Q6439	B	1.5
	C	8.8
	E	3.2
Q6440	B	-0
	C	6.0
	E	-0
Q6441	B	1.8
	C	-0
	E	2.1
Q6501	B	4.4
	C	8.9
	E	3.7
Q6502	B	(1.9)[2.2]
	C	0
	E	(0)[2.9]
Q6503	B	(0.1)[2.7]
	C	0
	E	(1.9)[2.2]
Q6504	B	0.2
	C	8.2
	E	0
Q6505	B	0.3
	C	8.9
	E	0.1
Q6506	B	(2.8)[0]
	C	(0)[3.3]
	E	0
Q6507	B	(0)[2.7]
	C	0.3
	E	0
Q6508	B	5.2
	C	4.6
	E	8.9
Q6509	B	0.6
	C	0
	E	0

(1)

208mVp-p

(2)

2.4Vp-p

(3)

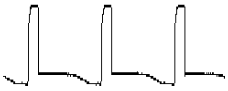
800mVp-p

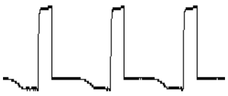
(4) PAL

736mVp-p

(4) NTSC3.58

1.4Vp-p

(5) PAL

8.8Vp-p

(5) NTSC3.58

9.0Vp-p

(6) PAL

1.4Vp-p

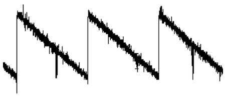
(6) NTSC3.58

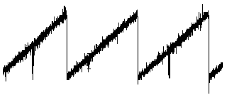
1.5Vp-p

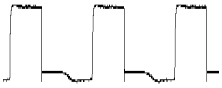
Ref	Pin No.	Voltage[v]

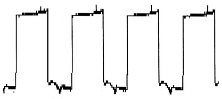
(7)

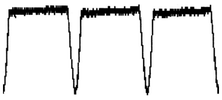
8.8Vp-p

(8) PAL

472mVp-p

(8) NTSC3.58

752mVp-p

(9)

9.0Vp-p

(10)

840mVp-p

(11)

16.8Vp-p

(12)

1.7Vp-p

(13)

1.8Vp-p

P BOARD VOLTAGE LIST AND WAVEFORM (EXCEPT KV-DR29M63)

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
IC8801	1	1.4	Q8802	B	0.9
	2	(1.7)[1.4]		C	0
	3	0.2		E	1.6
	4	0.1	Q8803	B	0.7
	5	4.4		C	0
	6	4.4		E	1.4
	7	3.3	Q8804	B	4.7
	8	0		C	0
	9	0		E	4.9
	10	0.8	Q8805	B	1.9
	11	0		C	0
	12	0		E	2.6
	13	0	Q8806	B	0.3
	14	0		C	3.3
	15	0		E	0.3
	16	0.7			
	17	0.3	Q8807	B	0.1
	18	0.7		C	3.3
	19	3.3		E	0.1
	20	0	Q8808	B	2.5
	21	3.3		C	0
	22	3.3		E	(1.6)[3.2]
	23	0	Q8809	B	2.6
	24	1.7		C	0
	25	1.2		E	3.3
	26	1.7	Q8810	B	2.5
	27	2.1		C	0
	28	2.0		E	3.2
IC8802	I	4.9	Q8811	B	0.3
	G	0		C	0
	O	3.3		E	0.9
Q8801	B	0.7	Q8812	B	-0.5
	C	0		C	2.6
	E	1.4		E	0

V2 BOARD VOLTAGE LIST AND WAVEFORM (EXCEPT KV-DR29M63)

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
IC5801	1	0		33	0
	2	0		34	0
	3	0		35	0
	4	0		36	1.3
	5	0		37	0
	6	0		38	0
	7	0		39	3.3
	8	0		40	0
	9	0		41	2.4
	10	0		42	2.4
	11	0		43	0
	12	0		44	0
	13	0		45	0
	14	0		46	0
	15	0		47	0
	16	0		48	0
	17	0		49	0
	18	0		50	4.6
	19	0		51	0
	20	0		52	0
	21	0	Q5801	B	0
	22	0		C	5
	23	2.2		E	0
	24	0	Q5803	B	0.6
	25	2		C	0
	26	2.4		E	0
	27	0	Q5805	B	0.5
	28	0		C	1.3
	29	0		E	0
	30	0	Q5810	B	0.4
	31	2.5		C	3.6
	32	0		E	0

C BOARD VOLTAGE LIST AND WAVEFORM

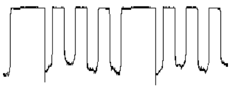
Ref	Pin No.	Voltage[v]
IC9001	1	3.5
	2	12
	3	3.4
	4	0
	5	9.0
	6	200
	7	152
	8	(158)[154]
	9	(152)[148]
IC9002	1	3.5
	2	12
	3	3.4
	4	0
	5	8.9
	6	200
	7	157
	8	170
	9	156
IC9003	1	3.5
	2	12
	3	3.3
	4	0
	5	9.0
	6	200
	7	154
	8	160
	9	153
J9001	G2	(565)[560]
	H1	0

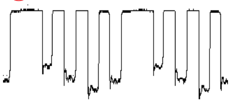
4

23.6Vp-p

Ref	Pin No.	Voltage[v]
J9001	H2	0

Ref	Pin No.	Voltage[v]
	KB	160

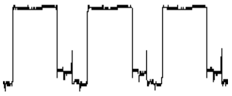
3 PAL

116Vp-p

3 NTSC3.58

108Vp-p

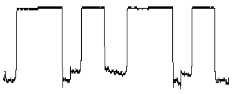
Ref	Pin No.	Voltage[v]
	KG	(168)[170]

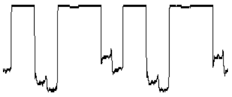
2 PAL

96Vp-p

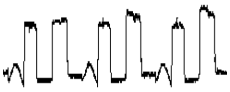
2 NTSC3.58

86Vp-p

Ref	Pin No.	Voltage[v]
	KR	(158)[154]

1 PAL

108Vp-p

1 NTSC3.58

120Vp-p

Ref	Pin No.	Voltage[v]
Q9001	B	8.4
	C	0
	E	4.6
Q9003	B	0
	C	12
	E	2.9
Q9004	B	0
	C	12
	E	2.8
Q9005	B	0
	C	12
	E	2.8
Q9009	B	2.9
	C	0
	E	3.5
Q9010	B	2.8
	C	0
	E	3.4
Q9011	B	2.8
	C	0
	E	3.4

5

3.2Vp-p

6

2.5Vp-p

7

4.3Vp-p

BC1 BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
IC2001	VCC	5.0
	OUT	2.5
	GND	0
IC2004	1	0
	2	0
	3	0
	4	0
	5	0
	6	0
	7	0
	8	0
	9	0
	10	0
	11	3.4
	12	3.4
	13	0
	14	0
	15	0
	16	0
	17	0
	18	0
	19	0
	20	1.1
	21	0
	22	0
	23	1.1
	24	1.0
	25	1.1
	26	1.1
	27	1.1
	28	1.1
	29	0
	30	0
	31	2.4
	32	2.4
	33	0
	34	0
	35	0
	36	0
	37	0
	38	3.3
	39	0
	40	0
	41	0
	42	0
	43	0
	44	0
	45	2.4
	46	2.5
	47	2.5
	48	1.2
	49	0
	50	1.3
	51	0
	52	1.3
	53	2.4
	54	01
	55	0
	56	0
	57	4.9
	58	0
	59	4.5
	60	4.5
	61	0
	62	0
	63	0
	64	2.4
	65	2.6
	66	0
	67	0
	68	2.6
	69	2.6
	70	2.6

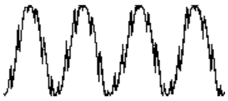
Ref	Pin No.	Voltage[v]
	71	2.6
	72	2.6
	73	2.6
	74	2.6
	75	0
	76	4.1
	77	0
	78	0
	79	0
	80	0
	81	2.4
	82	0
	83	1.3
	84	1.1
	85	1.0
	86	0
	87	0
	88	0
	89	0.3
	90	0.7
	91	0
	92	2.4
	93	2.5
	94	0
	95	0
	96	1.1
	97	0
	98	0
	99	0
	100	2.5
IC2005	VCC	5.0
	OUT	3.3
	GND	0
IC2300	1	0
	2	3.1
	3	0.5
	4	0
	5	0
	6	1.8
	7	2.1
	8	0
	9	0
	10	0
	11	4.9
	12	0
	13	5.0
	14	0
	15	4.4
	16	4.4
	17	0
	18	0
	19	2.5
	20	5.0
	21	0
	22	3.6
	23	3.6
	24	3.4
	25	2.6
	26	0
	27	3
	28	1.1
Q2002	B	1.3
	C	0
	E	2.0
Q2003	B	1.3
	C	0
	E	2.0
Q2004	B	1.2
	C	0
	E	1.9
Q2005	B	2.5
	C	8.9
	E	1.9

Ref	Pin No.	Voltage[v]
Q2006	B	2.5
	C	8.9
	E	1.9
Q2007	B	2.8
	C	5.7
	E	2.2
Q2008	B	5.7
	C	(8.9)[5.9]
	E	(5.0)[2.1]
Q2009	B	5.7
	C	8.9
	E	5.0
Q2010	B	5.9
	C	8.9
	E	5.3
Q2011	B	0.1
	C	4.1
	E	0
Q2012	B	1.0
	C	0
	E	1.7
Q2013	B	4.8
	C	0.5
	E	0.5
Q2014	B	6.2
	C	8.9
	E	5.6
Q2015	B	3.5
	C	4.8
	E	(3.2)[3.6]
Q2016	B	1.7
	C	8.9
	E	1.1
Q2018	B	2.5
	C	0
	E	3.2
Q2019	B	(3.3)[3.6]
	C	8.9
	E	2.7
Q2300	B	0
	C	8.9
	E	0
Q2301	B	2.5
	C	0
	E	3.1
Q2302	B	3.0
	C	9.0
	E	2.4
Q2303	B	(2.6)[3.2]
	C	8.3
	E	(3.2)[2.6]
Q2304	B	8.3
	C	5.5
	E	9.0
Q2305	B	(2.6)[2.9]
	C	9.0
	E	0
Q2306	B	3.2
	C	8.3
	E	(0)[2.5]
Q2307	B	4.9
	C	9.0
	E	4.3
Q2308	B	8.3
	C	4.9
	E	9.0
Q2309	B	5.7
	C	8.9
	E	5.1

B3 BOARD VOLTAGE LIST AND WAVEFORM

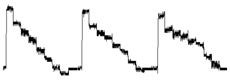
Ref	Pin No.	Voltage[v]
IC504	1	4.2
	2	0
	3	(0.8)[1.4]
	4	3.3
	5	1.6
	6	2.1
	7	0
	8	0
	9	0
	10	0
	11	0
	12	2.2
	13	2.2
	14	4.2
IC505	1	4.9
	2	3.2
	3	0
	4	0
	5	4.9
IC506	1	4.9
	2	3.0
	3	0
	4	0.4
	5	4.9
IC507	1	0
	2	3.6
	3	4.8
	4	1.0
	5	4.8
	6	1.4
	7	3.3
	8	0
	9	4.1
	10	0.7
	11	4.8
	12	3.3
	13	4.8
	14	4.2
	15	0
	16	4.8
IC601	1	2.4
	2	0
	3	0
	4	0
	5	0
	6	0
	7	3.1
	8	3.1
	9	3.1
	10	0.5
	11	3.1
	12	0
	13	0.9
	14	1.3
	15	1.4
	16	1.3
	17	1.4
	18	1.4
	19	1.4
	20	1.5
	21	2.4
	22	0
	23	3.2
	24	0
	25	0.8
	26	1.3
	27	1.5
	28	1.5
	29	1.4
	30	1.5
	31	1.4
	32	1.6
	33	3.2

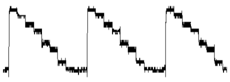
Ref	Pin No.	Voltage[v]
	34	0
	35	0
	36	0
	37	0
	38	0
	39	0
	40	0
	41	0
	42	0
	43	2.4
	44	0
	45	1.6
	46	0
	47	0
	48	0
	49	0
	50	3.2
	51	0
	52	2.4
	53	0
	54	3.2
	55	0
	56	0
	57	3.2
	58	3.2
	59	3.1
	60	0
	61	0
	62	3.2
	63	3.2
	64	3.2
	65	0
	66	0
	67	3.2
	68	0
	69	0.4
	70	3.2
	71	0
	72	3.2
	73	0
	74	2.4
	75	0
	76	0
	77	0
	78	3.2
	79	3.2
	80	3.0
	81	0.4
	82	3.2
	83	0
	84	0
	85	3.2
	86	0.3
	87	3.2
	88	0
	89	0
	90	0
	91	1.5
	92	1.5
	93	0
	94	2.4
	95	1.5
	96	3.2
	97	1.4

①

10Vp-p

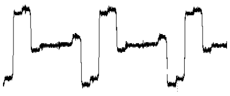
Ref	Pin No.	Voltage[v]
	98	3.0
	99	3.2

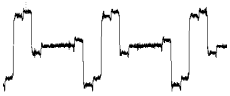
Ref	Pin No.	Voltage[v]
	100	0
	101	0
	102	0
	103	2.4
	104	0
	105	0.3

② PAL

820mVp-p

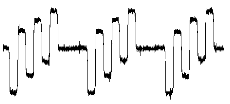
② NTSC3.58

640mVp-p

Ref	Pin No.	Voltage[v]
	106	0.9
	107	0.9
	108	1.1
	109	0.5

③ PAL

656mVp-p

③ NTSC3.58

680mVp-p

Ref	Pin No.	Voltage[v]
	110	2.1
	111	3.2
	112	0
	113	0.5

④

670mVp-p

Ref	Pin No.	Voltage[v]
	114	3.2
	115	0
	116	2.4
	117	1.6
	118	0
	119	1.6
	120	1.3
	121	1.3
	122	1.3
	123	1.3
	124	1.2
	125	1.3
	126	1.7
	127	1.3
	128	1.2
	129	0.3
	130	0
	131	1.3
	132	1.1
	133	1.4
	134	1.5
	135	1.8
	136	1.5
	137	1.5
	138	1.6
	139	1.2

B3 BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
	140	1.7
	141	2.4
	142	0
	143	3.2
	144	0
	145	1.3
	146	1.1
	147	1.3
	148	1.3
	149	1.3
	150	1.2
	151	1.1
	152	1.3
	153	1.2
	154	1.9
	155	0
	156	0
	157	3.2
	158	(1.5)[1.9]
	159	(0.6)[2.2]
	160	1.3
	161	1.4
	162	0
	163	0
	164	1.3
	165	1.2
	166	1.4
	167	1.3
	168	1.2
	169	1.3
	170	1.1
	171	1.9
	172	2.4
	173	0
	174	1.6
	175	1.4
	176	(1.4)[0.8]
	177	1.5
	178	1.7
	179	(1.5)[1.1]
	180	1.3
	181	0.3
	182	2.4
	183	0
	184	3.2
	185	3.2
	186	0.7
	187	3.2
	188	0
	189	0
	190	0
	191	0
	192	0
	193	0
	194	0
	195	0
	196	0
	197	2.4
	198	0
	199	0
	200	0
	201	0
	202	0
	203	0
	204	0
	205	0
	206	0
	207	3.2
	208	0
IC602	1	3.3
	2	1.5
	3	1.5
	4	0
	5	1.1
	6	1.5
	7	3.3
	8	1.6
	9	1.5
	10	0
	11	1.1
	12	(0.6)[1.0]
	13	3.3
	14	0.5
	15	3.2
	16	3.2
	17	3.2
	18	3.2
	19	0
	20	0
	21	0
	22	0
	23	0
	24	0
	25	3.3
	26	0
	27	0
	28	0
	29	0
	30	0
	31	0
	32	0
	33	0
	34	3.3
	35	0
	36	0
	37	0
	38	3.3
	39	1.5
	40	1.5
	41	0
	42	1.7
	43	1.6
	44	3.2
	45	1.8
	46	1.6
	47	0
	48	1.5
	49	1.1
	50	0
IC603	1	3.3
	2	0
	3	1.4
	4	0.2
	5	1.3
	6	1.4
	7	0
	8	0
	9	0
	10	0
	11	0
	12	1.4
	13	2.1
	14	3.3
IC604	1	4.9
	2	(0)[3.1]
	3	0.4
	4	0.4
	5	3.0
	6	0.4
	7	0.4
	8	0
	9	(3.2)[0]
	10	(3.2)[0]
	11	0
	12	4.9
	13	0
	14	4.5
	15	4.4
	16	4.9
IC605	1	2.3
	2	1.8
	3	1.8
	4	*
	5	0
IC801	1	4.8
	2	*
	3	*
	4	*
	5	*
	6	4.8
	7	*
	8	*
	9	*
	10	*
	11	*
	12	*
	13	*
	14	*
	15	*
	16	*
	17	*
	18	*
	19	*
	20	4.8
	21	*
	22	*
	23	*
	24	*
	25	*
	26	*
	27	*
	28	*
	29	*
	30	*
	31	*
	32	*
	33	*
	34	*
	35	*
	36	*
	37	*
	38	*
	39	*
	40	*
IC802	1	*
	2	*
	3	*
	4	*
	5	*
	6	*
	7	*
	8	1.2
	9	1.0
	10	3.4
	11	*
	12	*
	13	*
	14	*
	15	*
	16	0
	17	0
	18	0
	19	0
	20	0
	21	0
	22	2.4
	23	3.4
	24	2.7
	25	2.1

B3 BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
	26	3.4
	27	2.7
	28	1.4
	29	0
	30	2.1
	31	0
	32	2.4
	33	1.0
	34	1.3
	35	1.7
	36	0.9
	37	3.4
	38	2.4
	39	1.0
	40	1.7
	41	1.7
	42	(1.4)[1.7]
	43	0
	44	3.4
	45	*
	46	0
	47	0
	48	3.4
	49	0.3
	50	0
	51	*
	52	3.0
	53	3.4
	54	1.6
	55	*
	56	1.6
	57	*
	58	0
	59	*
	60	*
	61	*
	62	*
	63	*
	64	*
	65	*
	66	*
	67	*
	68	*
	69	*
	70	*
	71	*
	72	*
	73	*
	74	*
	75	*
	76	1.7
	77	1.7
	78	0.2
	79	0
	80	0
	81	*
	82	*

Ref	Pin No.	Voltage[v]
	83	*
	84	*
	85	*
	86	*
	87	*
	88	*
	89	*
	90	0
	91	*
	92	*
	93	*
	94	*
	95	*
	96	*
	97	*
	98	*
	99	*
	100	*
IC803	1	4.8
	2	2.7
	3	3.5
	4	1.2
	5	0
IC804	1	*
	2	0
	3	0
	4	2.7
	5	4.8
Q501	B	2.3
	C	0
	E	3.0
Q502	B	2.7
	C	4.9

5 PAL

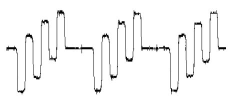
106mVp-p

5 NTSC3.58

86mVp-p

Ref	Pin No.	Voltage[v]
Q502	E	2.0
Q503	B	2.7
	C	4.9
	E	2.0

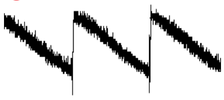
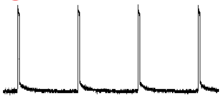
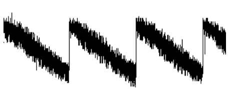
6



1.2Vp-p

Ref	Pin No.	Voltage[v]
Q504	B	0
	C	3
	E	0
Q505	B	0.3
	C	0
	E	1.0
Q516	B	4.0
	C	4.9
	E	3.3
Q517	B	4.9
	C	4.9
	E	4.2
Q518	B	3.2
	C	0
	E	2.2
Q521	B	3.2
	C	4.9
	E	2.6
Q522	B	3.6
	C	4.9
	E	3.0
Q523	B	3.7
	C	4.9
	E	3.0
Q601	B	0.1
	C	4.9
	E	0
Q602	B	0.3
	C	4.9
	E	0.2
Q603	G	3.2
	D	*
	S	*
Q604	G	3.2
	D	*
	S	*
Q901	B	0.9
	C	0
	E	1.6
Q902	B	1.1
	C	0
	E	1.8
Q903	B	1.1
	C	0
	E	1.8
Q907	B	0.5
	C	0
	E	1.2
Q908	B	0.3
	C	0
	E	1.0
Q909	B	0.5
	C	0
	E	1.2

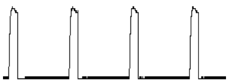
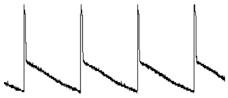
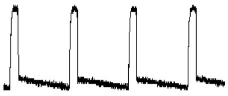
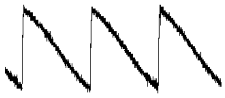
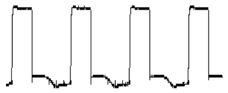
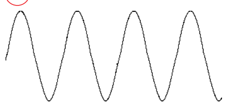
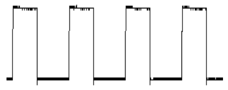
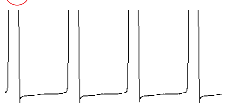
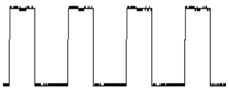
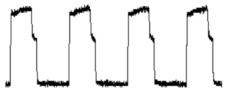
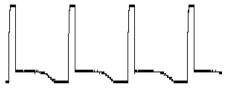
D BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
IC6600	1	2.9
	2	1.8
	3	2.3
	4	2.5
	5	0
	6	0
	7	4.7
	8	17.8
	9	0
	10	10.6
	11	0
	12	4.9
	13	0
	14	138
	15	1.7
	16	129
	17	323
	18	321
IC6601	1	9.8
	2	0
	3	2.4
IC6607	1	134.1
	2	2.5
	3	0
	4	0
IC6608	1	0
	2	0
	3	18.2
	4	7.2
	5	4.1
	6	7.4
	7	4.0
	8	3.0
	9	5.0
	10	18.0
	11	9.8
	12	0
	13	0.2
	14	18.2
IC6800	1	1.2
	①  860mVp-p	
	2	14
	3	-19.0
	②  31Vp-p	
	4	2
	5	-8.2
	6	12.9
	7	1.2
	③ PAL  820mVp-p	
	③ NTSC3.58 624mVp-p	

Ref	Pin No.	Voltage[v]
IC6804	I	10.3
	G	0
	O	9.0
IC6805	I	13.3
	G	0
	O	12
IC6806	I	0
	G	0
	O	0
	VC	0
IC6807	1	134
	2	2.4
	3	7.7
	4	0
PH6601	1	81
	2	80
	3	0.1
	4	0
PH6602	1	84
	2	83
	3	-17.5
	4	-16.0
Q6100	G	0.9
	D	*
	S	0
Q6102	B	*
	C	*
	E	*
Q6600	G	129
	D	323
	S	126
Q6601	B	0
	C	12
	E	0
Q6602	B	0.3
	C	18.0
	E	0
Q6603	G	4.9
	D	150
	S	0
Q6604	B	17.3
	C	18.0
	E	18.2
Q6605	B	0.9
	C	0.2
	E	0.1
Q6608	B	0.6
	C	0
	E	0
Q6609	B	4.9
	C	0
	E	4.9
Q6610	B	0.5
	C	4.9
	E	0.2
Q6611	B	0.2
	C	3.5
	E	0
Q6613	B	0
	C	0.6
	E	0
Q6614	B	17.4
	C	18.0
	E	18.2
Q6619	B	0.6
	C	0
	E	0
Q6620	B	0
	C	3.5
	E	0

Ref	Pin No.	Voltage[v]
Q6800	B	6.2
	C	0
	E	0
Q6801	G	0
	D	0.2
	S	0.3
Q6802	G	135
	D	220
	S	135
Q6803	B	1.4
	C	0
	E	1.7
Q6804	B	1.4
	C	9.0
	E	1.6
Q6805	B	0.5
	C	(73)[71]
	E	0
Q6806	B	-0.5
	C	(63)[60]
	E	0
Q6807	B	0
	C	(167)[139]
	E	0
Q6808	B	166
	C	145
	E	0
Q6809	G	3.2
	D	19
	S	0
Q6810	G	0
	D	135
	S	0
Q6811	B	0.3
	C	5.1
	E	0.6
Q6812	B	-0.5
	C	*
	E	0
Q6819	B	0
	C	0.8
	E	0
Q6820	B	-0.1
	C	0
	E	0
Q6821	B	-0.4
	C	9.0
	E	0

D BOARD VOLTAGE LIST AND WAVEFORM

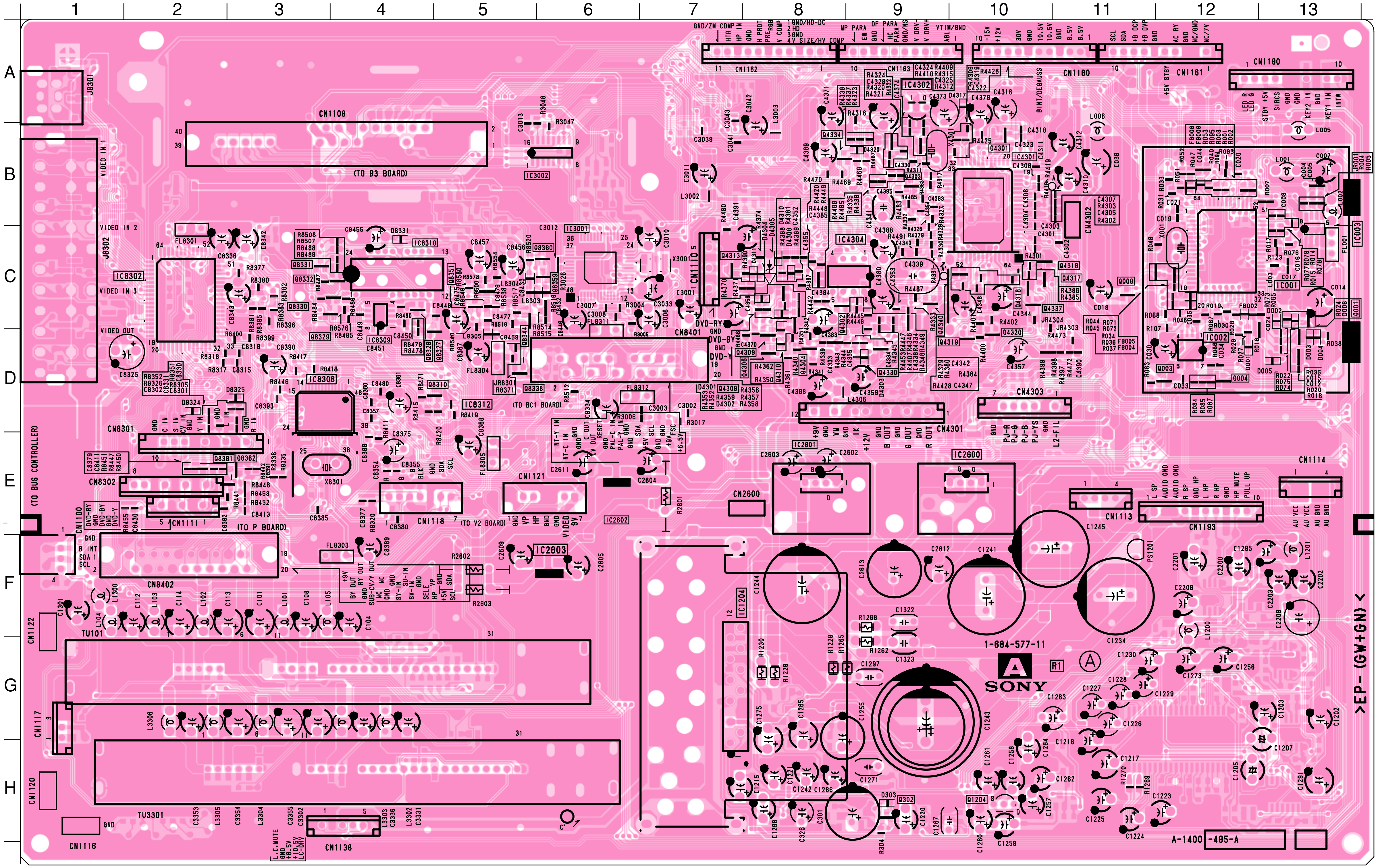
Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
	(4) PAL 2.7Vp-p			(10) PAL  7.6Vp-p	
	(4) NTSC3.58  53.6Vp-p			(10) NTSC3.58  2.2Vp-p	
	(5)  1.8Vp-p			(11)  9.2Vp-p	
	(6)  260Vp-p			(12)  8.9Vp-p	
	(7)  370Vp-p			(13) PAL  7.8Vp-p	
	(8)  2.3Vp-p			(13) NTSC3.58 2.6Vp-p	
	(9)  8.8Vp-p				

7-4. PRINTED WIRING BOARDS AND PARTS LOCATION

PRINTED WIRING BOARDS

A [MICON, AUDIO AMP., TUVIF 1 & 2, REGULATORS, RGB JUNGLE, YCT, AV SW, VIDEO/AUDIO SIGNAL]

– A board (Component Side) –



• : Pattern from the side which enables seeing.
• : Pattern from the rear side.

A BOARD (Component Side)

IC	
IC100	F-10
IC1200	G-1
IC1203	H-5
IC1204	F-7
IC1205	H-1
IC1207	H-3
IC2200	F-3
IC2600	E-4
IC2601	E-6
IC3003	B-7
IC4302	A-5
IC8310	C-11

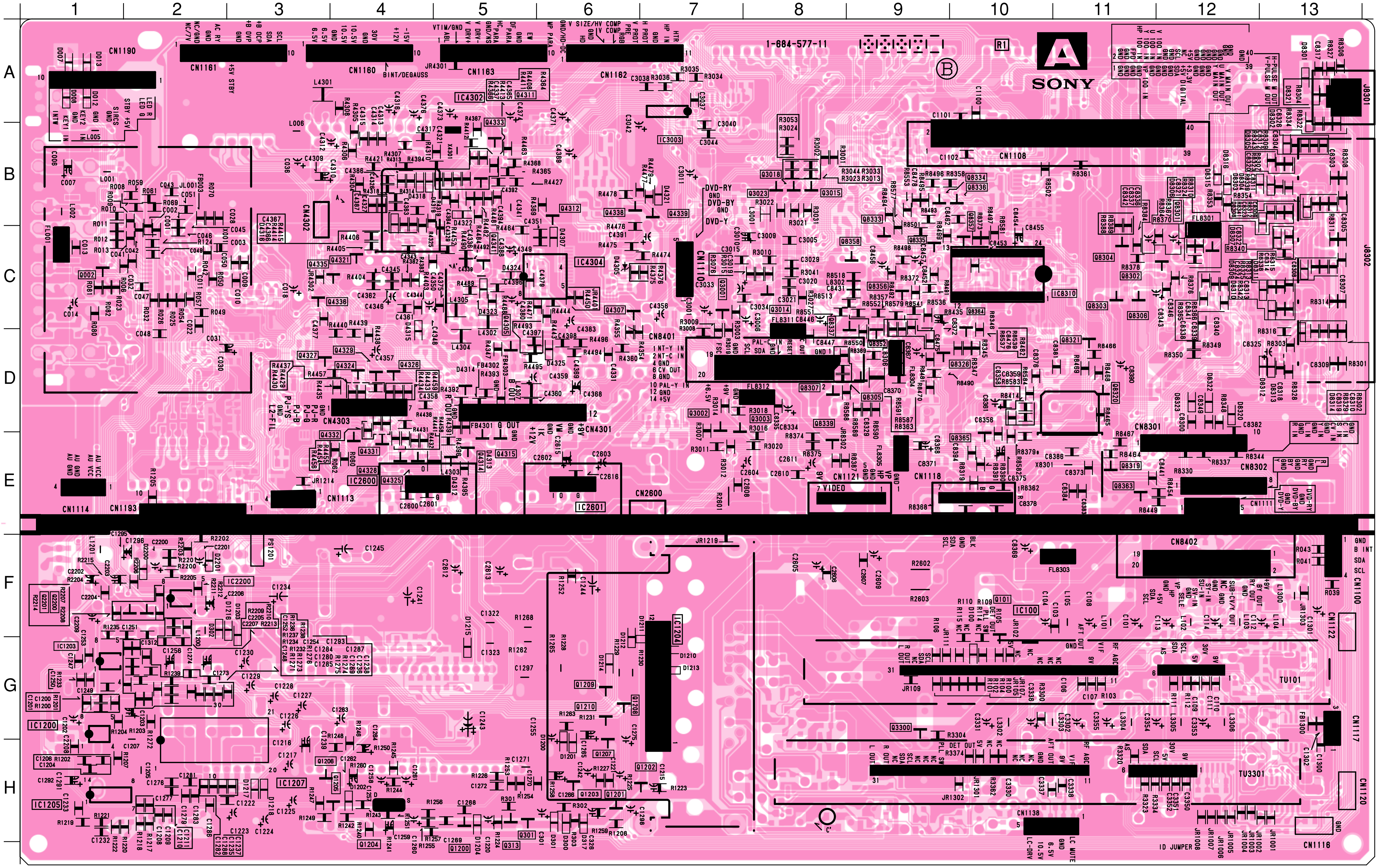
TRANSISTOR	
Q002	C-1
Q101	F-10
Q301	H-5
Q313	H-5
Q1200	H-5
Q1201	H-6
Q1202	H-7
Q1203	H-6
Q1204	H-4
Q1205	H-4
Q1207	H-6
Q1208	G-6
Q1210	G-6
Q2200	F-1
Q2201	F-1
Q3001	C-7
Q3002	D-7
Q3003	D-8
Q3014	C-8
Q3015	B-8
Q3018	B-8
Q3023	B-8
Q4305	C-5
Q4325	E-4
Q4326	D-4
Q4327	D-3
Q4328	E-4
Q4329	D-4
Q4331	E-4
Q4332	E-3
Q4333	B-5
Q4335	C-3
Q4336	C-4
Q4338	B-6
Q4339	B-7
Q4341	C-5
Q8300	G-9
Q8302	C-11
Q8303	C-11
Q8304	C-11
Q8305	D-9
Q8306	C-11
Q8307	D-8
Q8319	E-11
Q8320	D-11
Q8321	D-11
Q8328	D-10
Q8333	B-9
Q8334	B-10
Q8335	C-9
Q8336	B-10
Q8337	C-8
Q8339	D-8
Q8352	D-9
Q8356	C-9
Q8357	C-9
Q8358	C-9
Q8364	C-10
Q8383	E-11
Q8385	E-10

DIODE	
D007	A-1
D008	A-1
D012	A-1
D013	A-1
D300	H-7
D301	H-7
D302	F-2
D317	H-7
D1200	H-6
D1201	H-6
D1203	F-3
D1210	G-7
D1211	F-7
D1212	G-6
D1213	G-7
D1214	G-6
D1215	F-5
D1216	F-2
D1217	H-3
D1218	H-3
D1219	F-2
D2201	F-2
D4305	C-6
D4307	C-6
D4312	E-5
D4313	E-5
D4314	D-5
D4315	D-4
D4316	C-3
D4318	B-4
D4321	B-7
D4322	B-5
D4323	C-5
D4324	C-5
D4325	D-6
D8301	A-13
D8302	A-13
D8303	B-12
D8304	B-12
D8305	B-12
D8306	B-12
D8307	C-12
D8308	B-12
D8309	C-12
D8310	C-12
D8311	C-12
D8312	D-13
D8313	D-13
D8314	D-13
D8315	B-12
D8320	D-12
D8321	A-13
D8322	D-12
D8323	D-12

PRINTED WIRING BOARDS

A [MICON, AUDIO AMP., TUVIF 1 & 2, REGULATORS, RGB JUNGLE, YCT, AV SW, VIDEO/AUDIO SIGNAL]

– A board (Conductor Side) –



A BOARD (Conductor Side)

IC	
IC001	C-13
IC002	D-12
IC003	C-13
IC1204	F-7
IC2600	E-10
IC2601	E-8
IC2603	F-6
IC2802	E-6
IC3001	C-6
IC3002	B-5
IC4301	B-10
IC4302	A-9
IC4304	C-8
IC8302	C-1
IC8306	D-3
IC8309	D-4
IC8310	C-4
IC8312	D-5

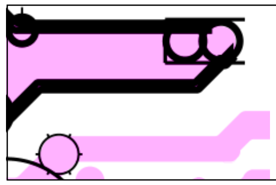
TRANSISTOR	
Q001	C-13
Q003	D-12
Q004	D-12
Q008	C-11
Q302	H-9
Q1204	H-10
Q4301	B-10
Q4302	C-8
Q4303	B-9
Q4304	D-8
Q4308	D-7
Q4309	D-7
Q4310	D-8
Q4313	C-7
Q4316	C-11
Q4317	C-11
Q4318	C-10
Q4320	D-10
Q4330	D-9
Q4334	B-8
Q4337	C-10
Q4340	C-9
Q8310	D-4
Q8327	D-5
Q8328	D-4
Q8329	D-3
Q8330	C-3
Q8331	C-3
Q8332	C-3
Q8338	D-5
Q8344	D-5
Q8351	C-5
Q8359	C-6
Q8360	C-6
Q8361	E-2
Q8362	E-3

DIODE	
D001	D-12
D002	C-13
D003	D-13
D004	D-13
D005	D-13
D006	C-13
D303	H-9
D4301	D-7
D4302	D-7
D4303	D-9
D4304	C-8
D4305	C-8
D4308	C-8
D4310	B-8
D4311	C-8
D4317	A-10
D4320	B-9
D8324	D-2
D8325	D-3
D8331	C-4

- : Pattern from the side which enables seeing.
- : Pattern from the rear side.

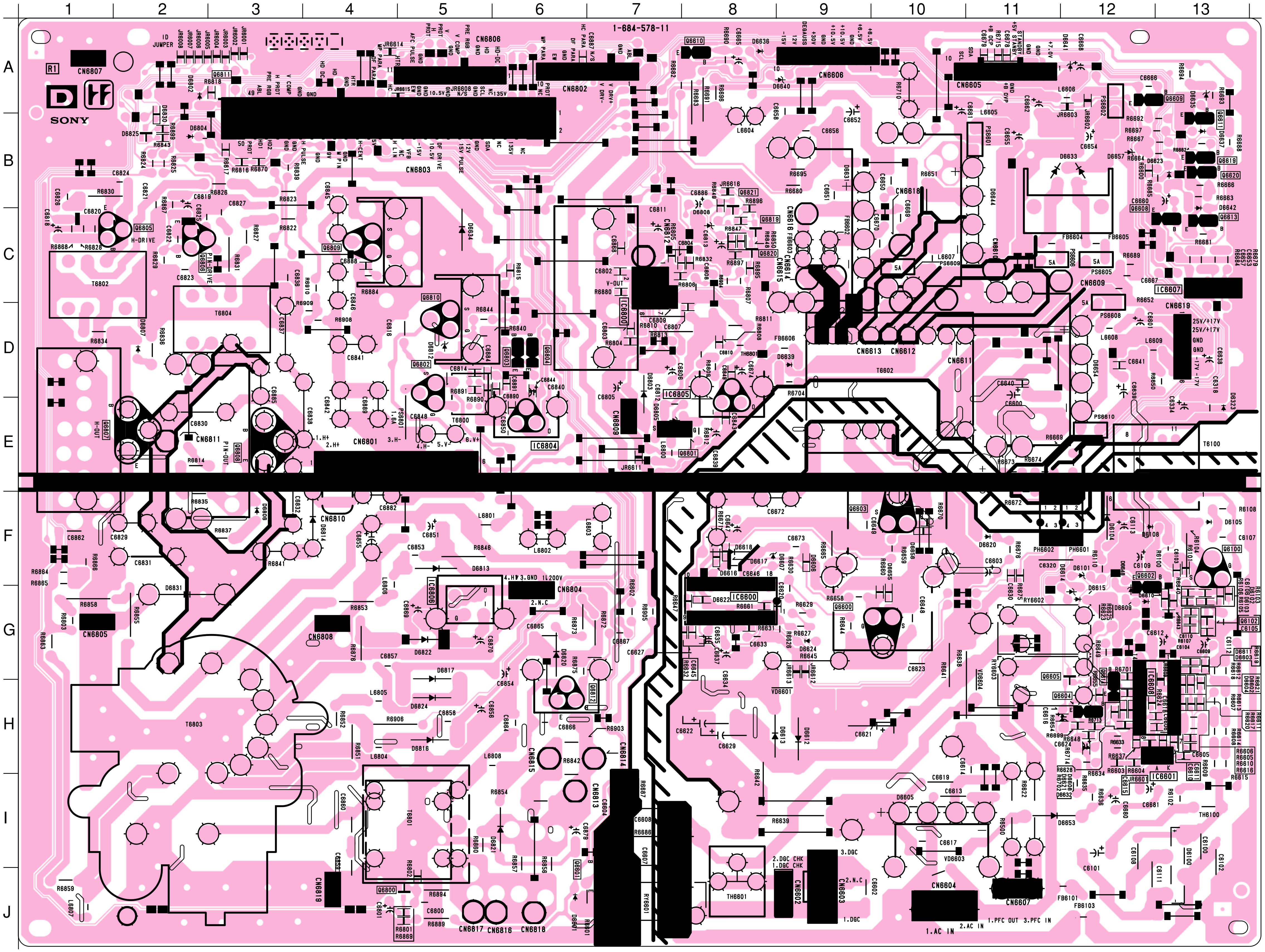
PRINTED WIRING BOARDS

D [POWER SUPPLY, DEFLECTION HV]



NOTE:
The circuit indicated at left contains high voltage of over 1220 Vp-p. Please pay attention when inspecting or repairing it to prevent an electric shock.

– D board –



D BOARD

IC	
IC6600	G-8
IC6607	C-13
IC6608	H-12
IC6661	I-13
IC6800	D-7
IC6804	E-6
IC6805	D-7
IC6806	G-5

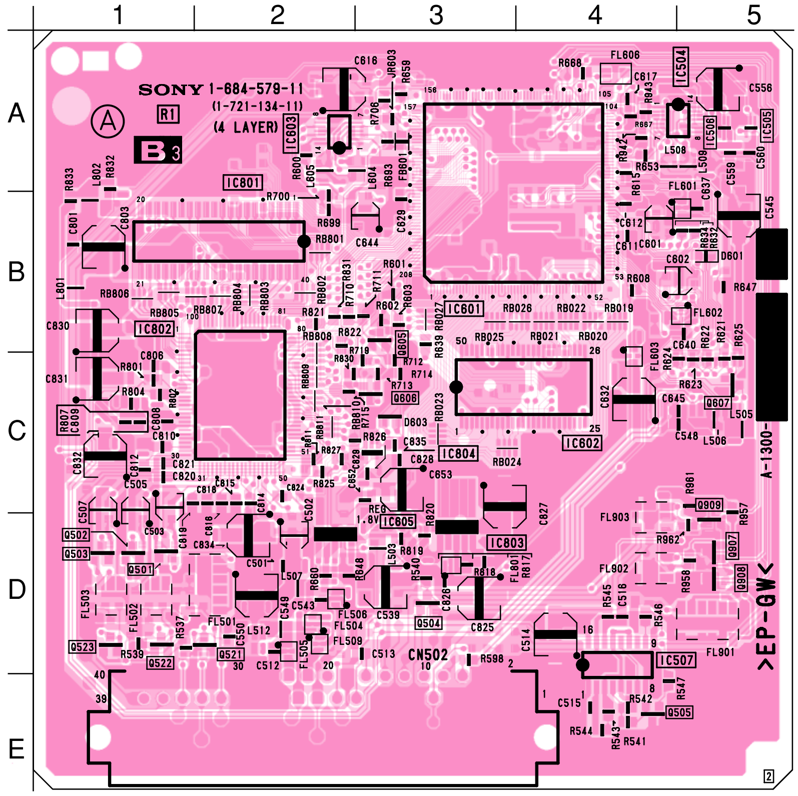
TRANSISTOR	
Q6100	F-13
Q6102	G-13
Q6600	G-9
Q6601	I-6
Q6602	F-12
Q6603	F-9
Q6604	H-12
Q6605	G-11
Q6608	B-12
Q6609	A-13
Q6610	A-8
Q6611	B-13
Q6613	C-13
Q6614	G-12
Q6619	B-13
Q6620	B-13
Q6800	J-4
Q6801	E-8
Q6802	D-5
Q6803	D-6
Q6804	D-6
Q6805	C-2
Q6806	C-2
Q6807	E-1
Q6808	E-3
Q6809	C-4
Q6810	C-5
Q6811	A-3
Q6812	H-7
Q6819	C-8
Q6820	C-8
Q6821	B-8

DIODE	
D6100	I-13
D6101	F-12
D6102	G-14
D6104	F-12
D6105	F-13
D6108	F-12
D6323	E-13
D6601	J-6
D6606	F-9
D6607	F-9
D6609	G-12
D6612	H-9
D6613	H-9
D6614	F-12
D6615	G-12
D6617	F-8
D6618	F-8
D6620	F-11
D6622	G-8
D6623	B-13
D6624	G-9
D6631	B-9
D6633	B-12
D6634	C-5
D6635	A-13
D6636	A-8
D6637	B-13
D6639	D-9
D6640	A-9
D6641	A-12
D6644	B-11
D6648	F-12
D6653	I-12
D6654	D-12
D6655	F-10
D6656	F-10
D6657	B-12
D6802	A-2
D6803	D-7
D6804	B-2
D6805	E-7
D6806	F-3
D6807	D-2
D6808	C-8
D6810	G-12
D6812	D-5
D6813	F-5
D6816	H-5
D6817	G-5
D6820	G-6
D6821	I-6
D6822	G-5
D6824	H-5
D6825	B-2
D6830	A-2
D6831	G-2

PRINTED WIRING BOARDS

B3 [DIGITAL REALITY CREATION-MF, 3D NOISE REDUCTION]

– B3 board (Component Side) –



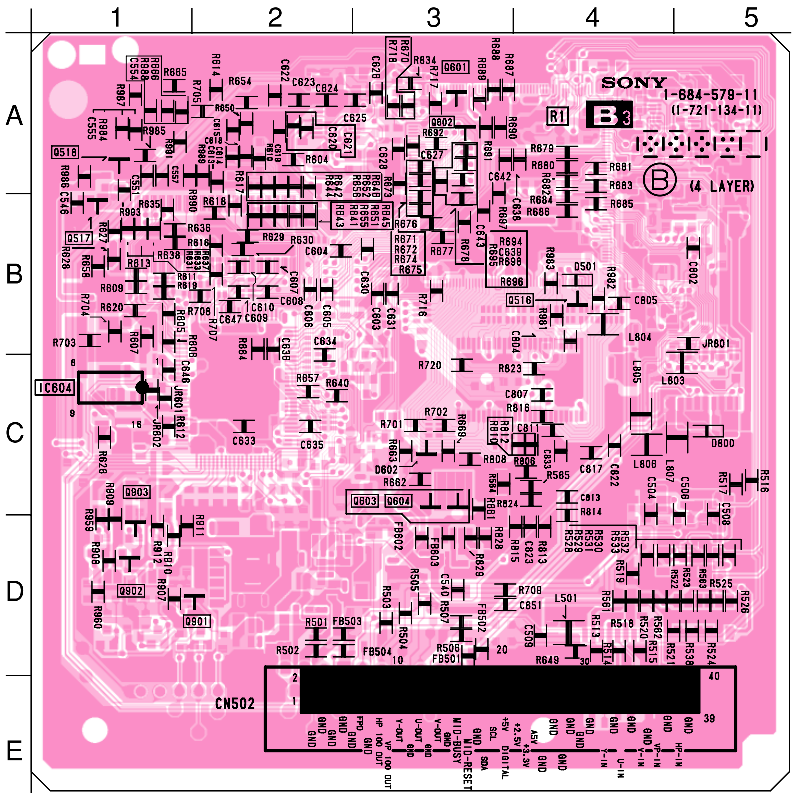
B3 board (Component Side)

IC	
IC504	A-5
IC505	A-5
IC507	D-5
IC508	A-5
IC601	B-3
IC602	C-4
IC603	A-2
IC605	D-3
IC801	A-2
IC802	B-1
IC803	D-3
IC804	C-3

TRANSISTOR	
Q501	D-1
Q502	D-1
Q503	D-1
Q504	D-3
Q505	E-5
Q521	D-2
Q522	D-1
Q523	D-1
Q605	B-3
Q606	C-3
Q607	C-5
Q907	D-5
Q908	D-5
Q909	D-5

DIODE	
D601	B-5
D603	C-3

– B3 board (Conductor Side) –



B3 board (Conductor Side)

IC	
IC604	C-1

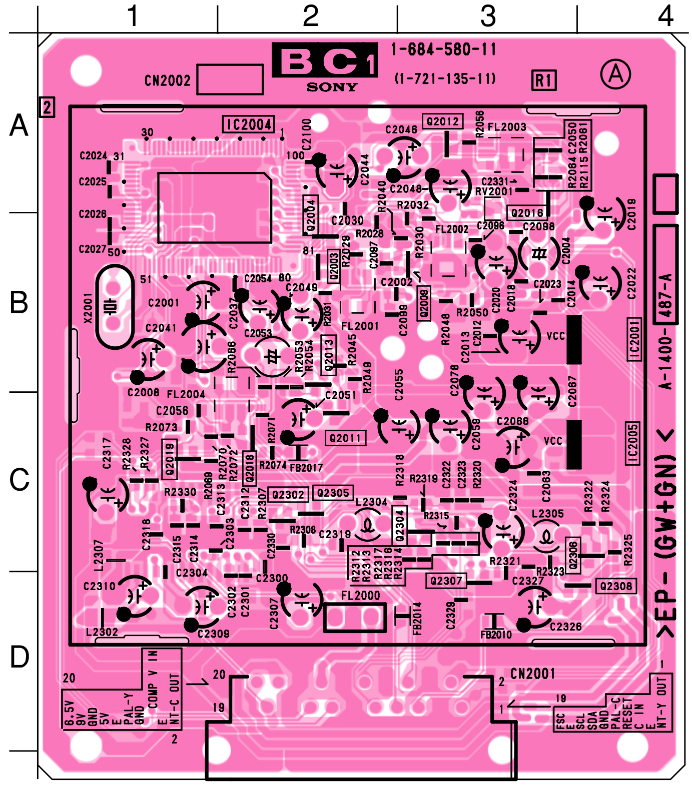
TRANSISTOR	
Q516	B-4
Q517	B-1
Q518	A-1
Q601	A-3
Q602	A-3
Q603	C-3
Q604	C-3
Q901	D-2
Q902	D-1
Q903	C-1

DIODE	
D501	B-4
D602	C-3
D800	C-5

- : Pattern from the side which enables seeing.
- : Pattern from the rear side.

BC1 [2D & 3D DIGITAL COMB]

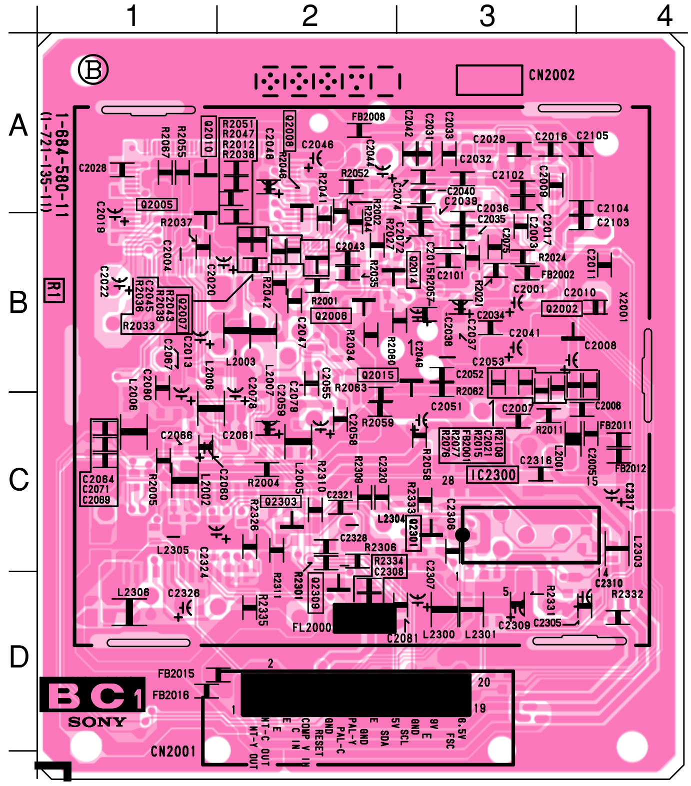
– BC1 board (Component Side) –



BC1 board (Component Side)

IC	
IC2001	B-4
IC2004	A-2
IC2005	C-4
TRANSISTOR	
Q2003	B-2
Q2004	B-2
Q2009	B-3
Q2011	C-2
Q2012	A-3
Q2013	B-2
Q2016	B-3
Q2018	C-2
Q2019	C-1
Q2302	C-2
Q2304	C-3
Q2305	C-2
Q2306	C-3
Q2307	D-3
Q2308	D-4

– BC1 board (Conductor Side) –



BC1 board (Conductor Side)

IC	
IC2300	C-3
TRANSISTOR	
Q2002	B-3
Q2005	A-1
Q2006	B-2
Q2007	B-1
Q2008	A-2
Q2010	A-1
Q2014	B-3
Q2015	B-2
Q2301	C-3
Q2303	C-2
Q2308	D-2

- (pink) : Pattern from the side which enables seeing.
- (light pink) : Pattern from the rear side.

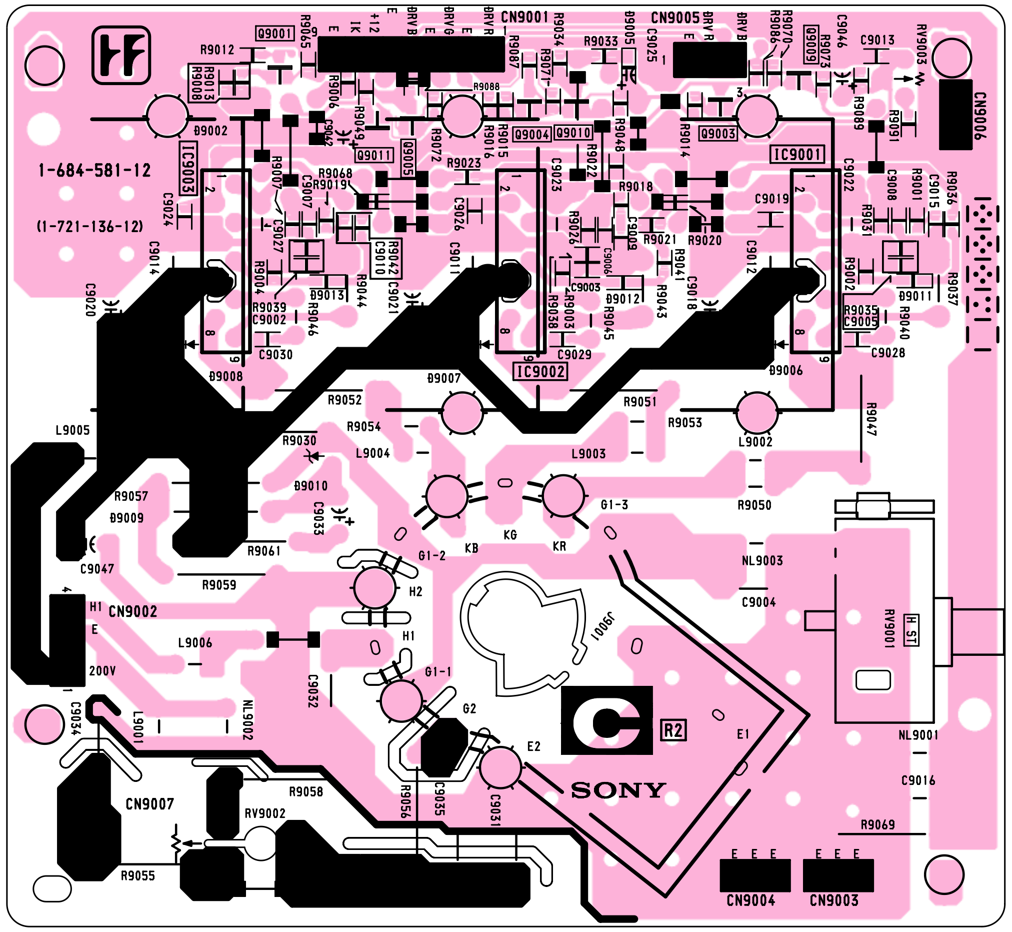
PRINTED WIRING BOARDS

C [VIDEO AMPLIFIER]

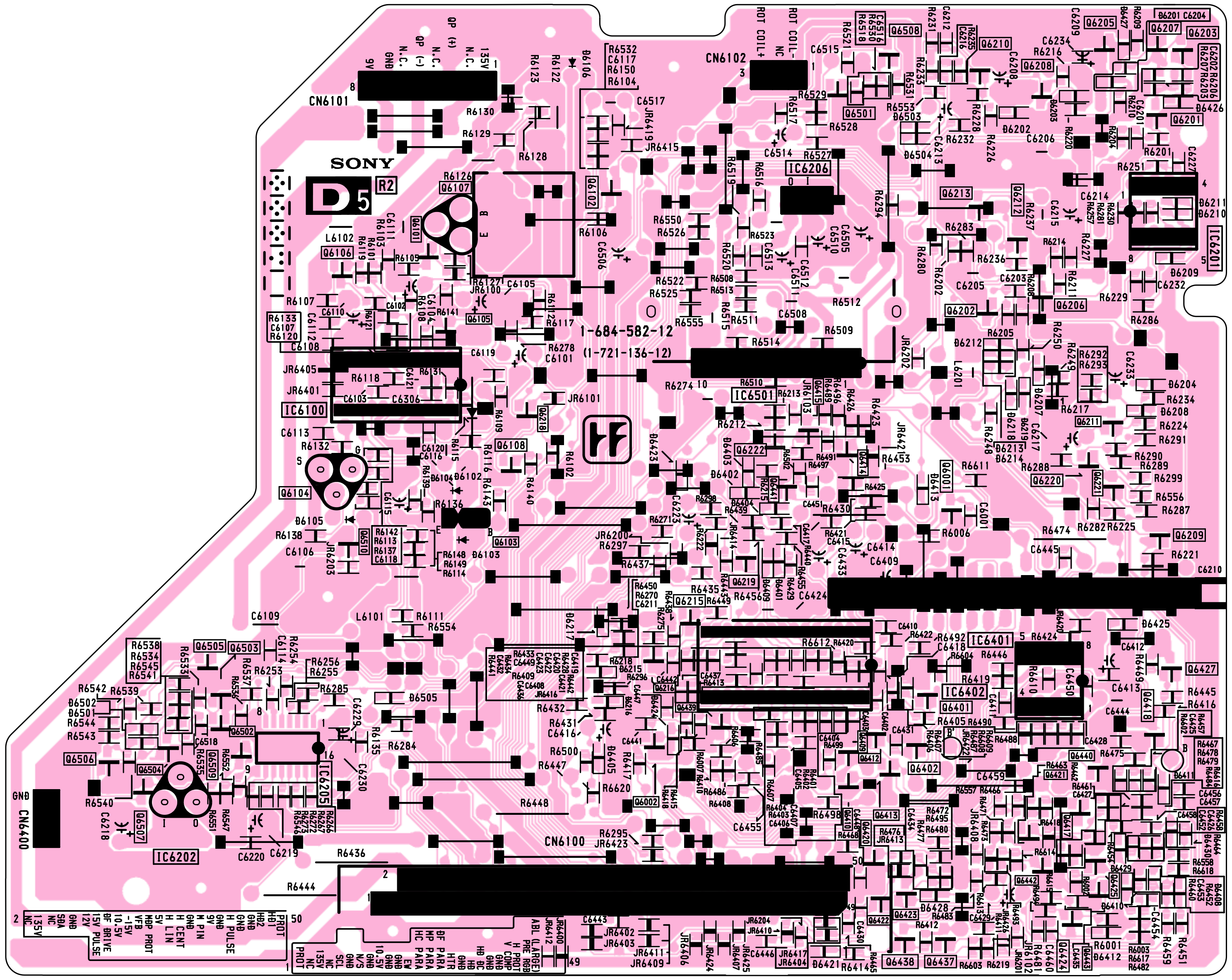
D5 [DEFLECTION CONTROL CIRCUIT]

H1 [S-TERMINAL INPUT, AV INPUT, PRESET KEY, PHONE OUT]

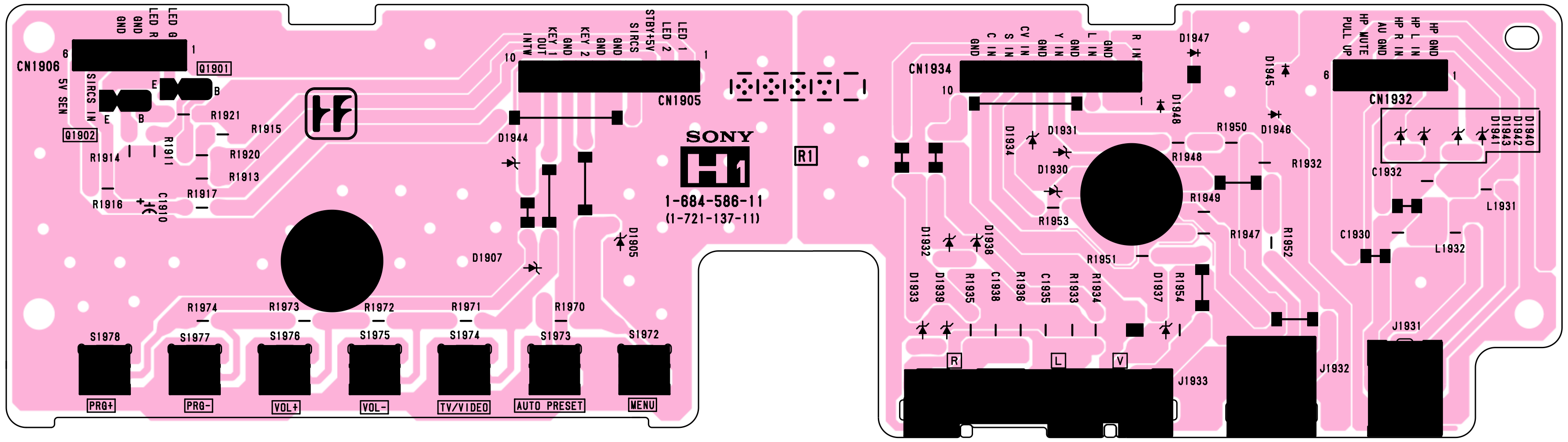
– C board –



– D5 board –



– H1 board –

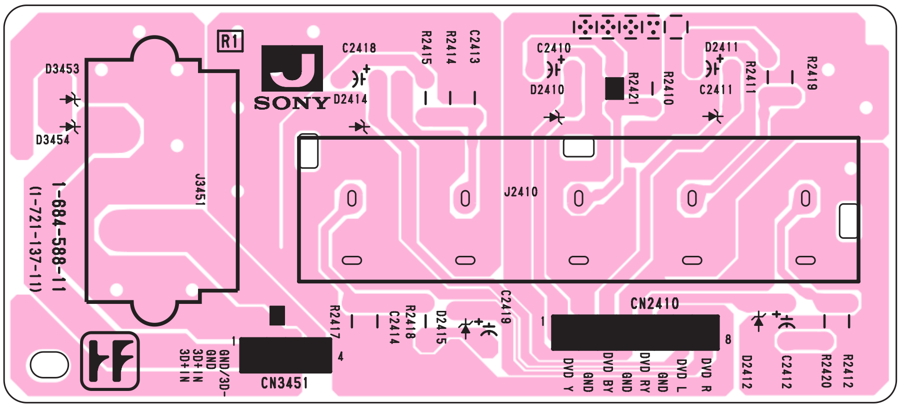


PRINTED WIRING BOARDS

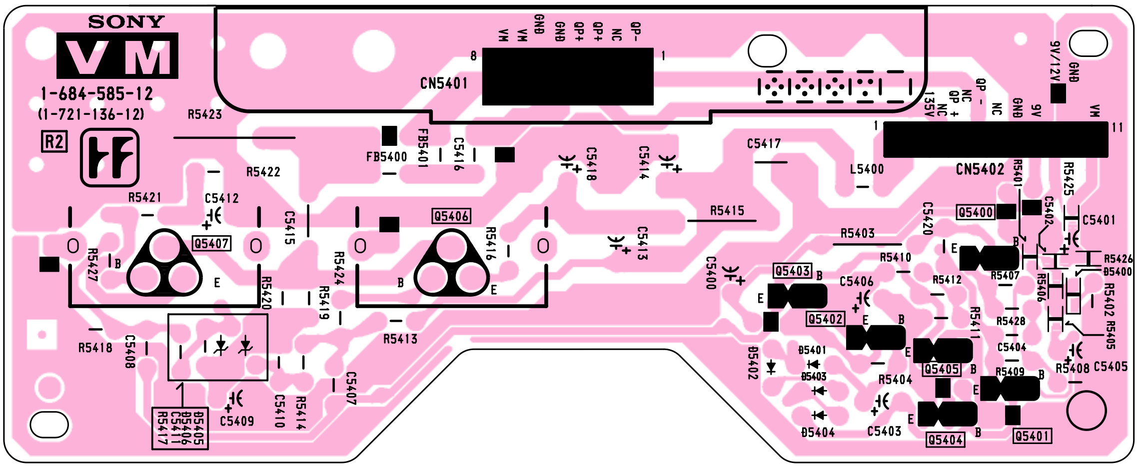
J [COMPONENT IN]

VM [VELOCITY MODULATION]

– J board –



– VM board –

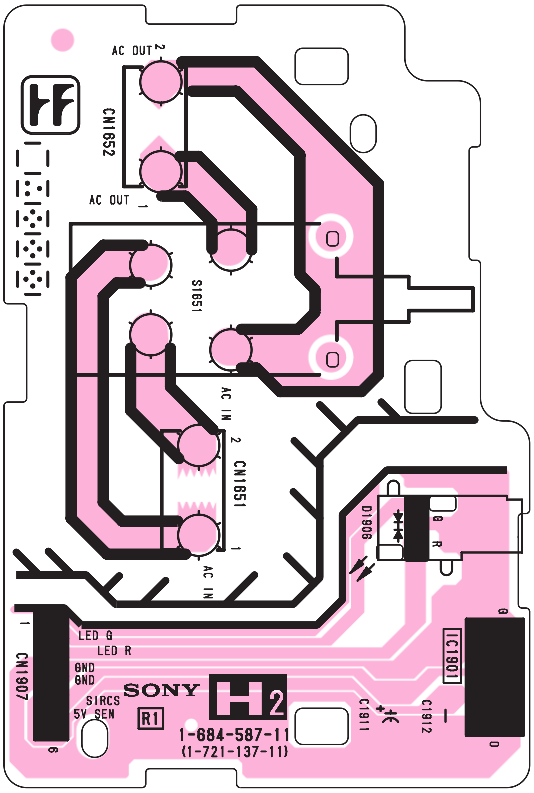


PRINTED WIRING BOARDS

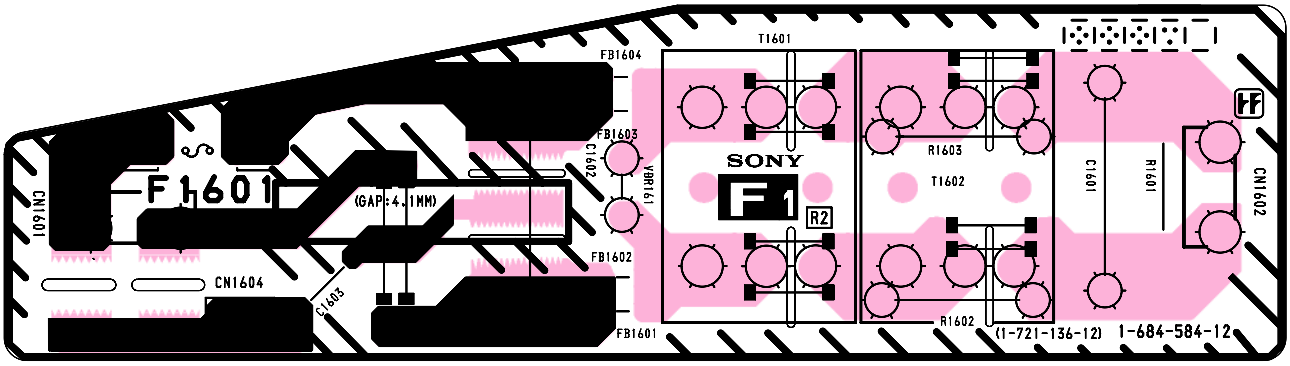
H2 [POWER SW, LED, SIRCS RECEIVER]

F1 [AC LINE FILTER]

– H2 board –



– F1 board –

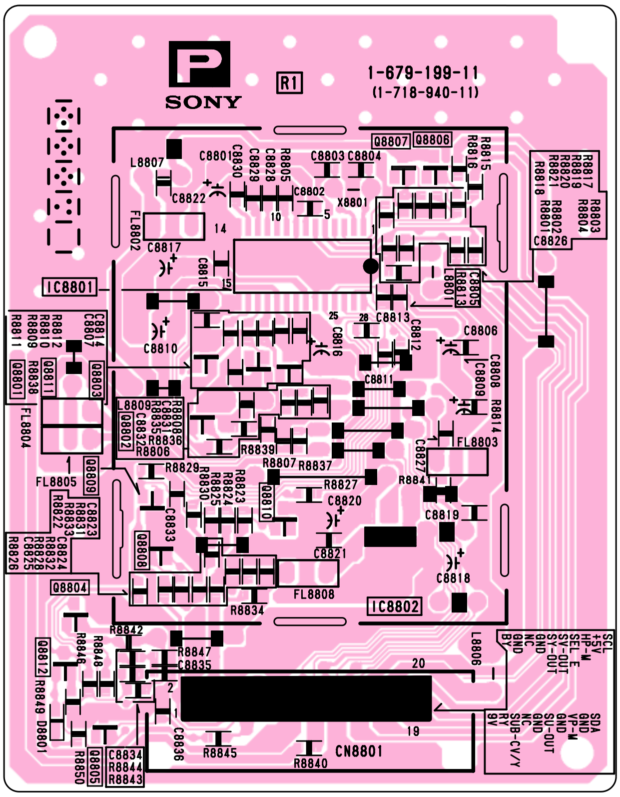


PRINTED WIRING BOARDS

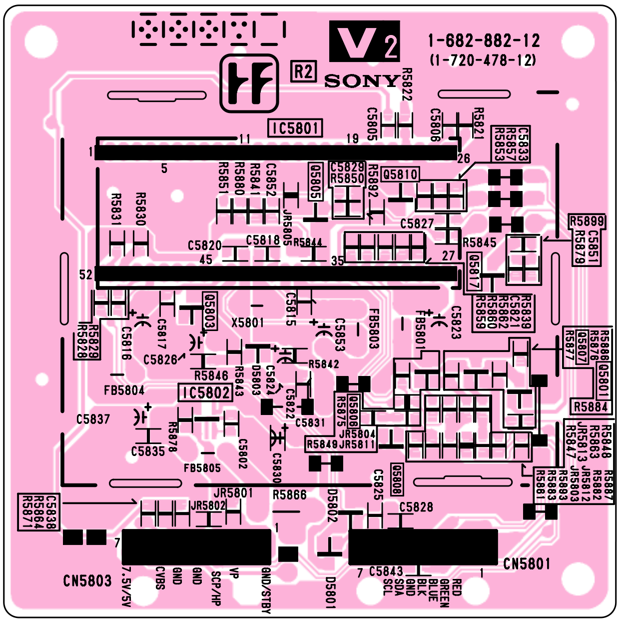
P [PICTURE IN PICTURE FEATURES]

V2 [TELETEXT]

– P board – (except KV-DR29M63)

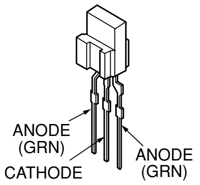
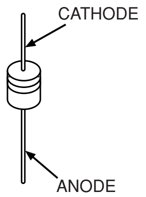
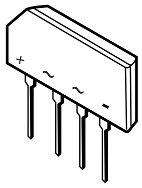
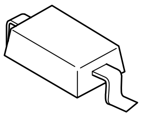
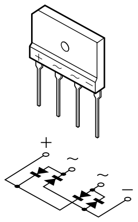


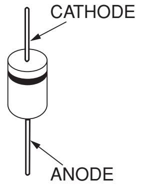
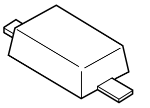
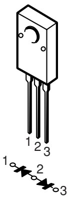
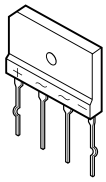
– V2 board – (except KV-DR29M63)

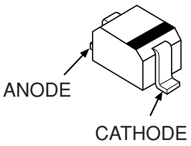
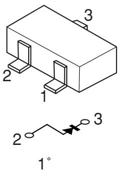
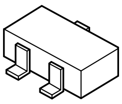
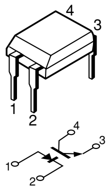
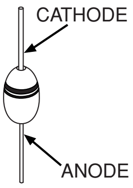


7-5 SEMICONDUCTORS

DIODE

					
SPB-25MVWF	D1NS4 RD22ES-B1 D1N20R RD12ESB1 RD15ESB1 ERA38-06 ERA85-009	RD10ESB2 RD4.7ESB2 RD18ESB RD30ESB2 RD6.8ESB1 11EQS04	D2SB60A-F04	MM3Z15VT1 MMDL914T1 MM3Z3V9T1	D4SB60L D4SBL20U

					
ERA22-08 D1NS6 1SS119-25 S3L20UF4 ELIZ RGP02-20EL-6394 NNCD9.1A-T1 HZS9.1NB2	HSS83TD GP08D 1SS133T-77 RD2.2M-T1B	MA111-TX UDZ-TE-17-9.1B	D10SC4M	D10SBS4F	RD7.5ESB1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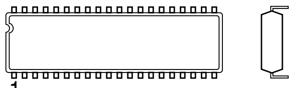
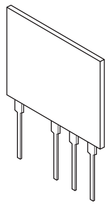
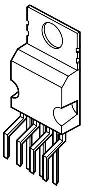
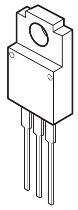
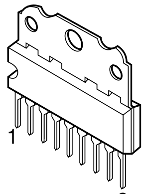
DIP  1 TOP VIEW Dual In-line Package Pin 6~98					
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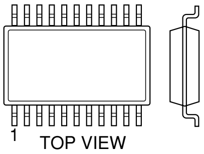
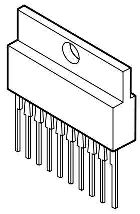
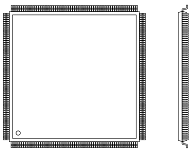
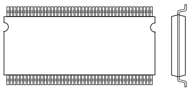
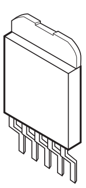
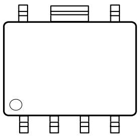
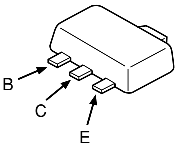
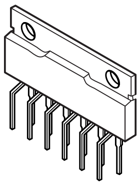
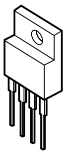
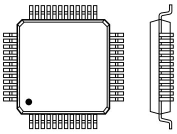
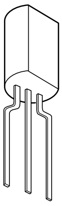
SOP  1 TOP VIEW Small outline L-leaded Pin 8~98			 TOP VIEW	 TOP VIEW	
SDA9588XB23 TLC2933IPWR-12 TC7SET08FU(TE85R) TLC2932IPWR CXA1875AM-T4 UPC4558G2 NJM4560M MM1115XFBE	M52055FP MSM514265E- 60JSDR1 TC90A69F BU4053BCF-E2 M24C16-MN6T(A)	LA6510	CXD2095AQ UPD64083 CXP750096-044Q	MT48LC1M16A1TG65	PQ07VZ012ZP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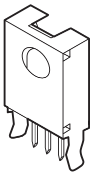
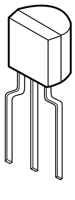
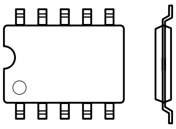
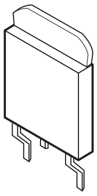
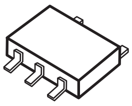
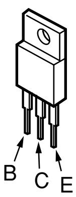
TRANSISTOR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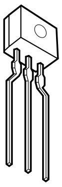	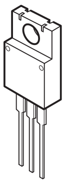	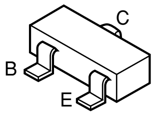		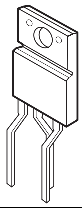	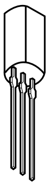
2SC2785-HFE 2SA1175-HFE DTC114ESA DTC144ESA	2SA2005 2SC5511 IRF1830G-LF49 2SC3840(3)	2SD2114K 2SC2712-YG UN2213 2SA1037AK-T146-R MSB709-RT1 2SA1162-G UN2211 DTC114TKA-T146	DTC144EKA 2SC2223-F13 2SD601A-Q-TX DTC114EKA-T146 MSD601-RT1 2SC1623-L5L6	IRF1B7N50A-LF31	2SC2500-B

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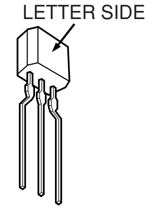	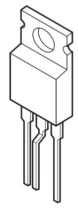	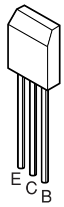	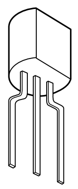	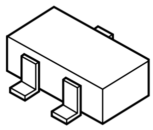	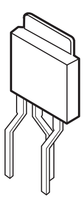
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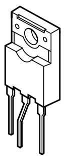
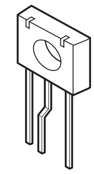
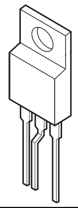
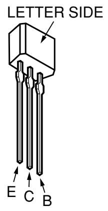
					
2SC5698-SONY-CA 2SC5696-SONY-CA	2SB1142-T	IRF1614-005	DTA144ESA		

SECTION 8
EXPLODED VIEWS

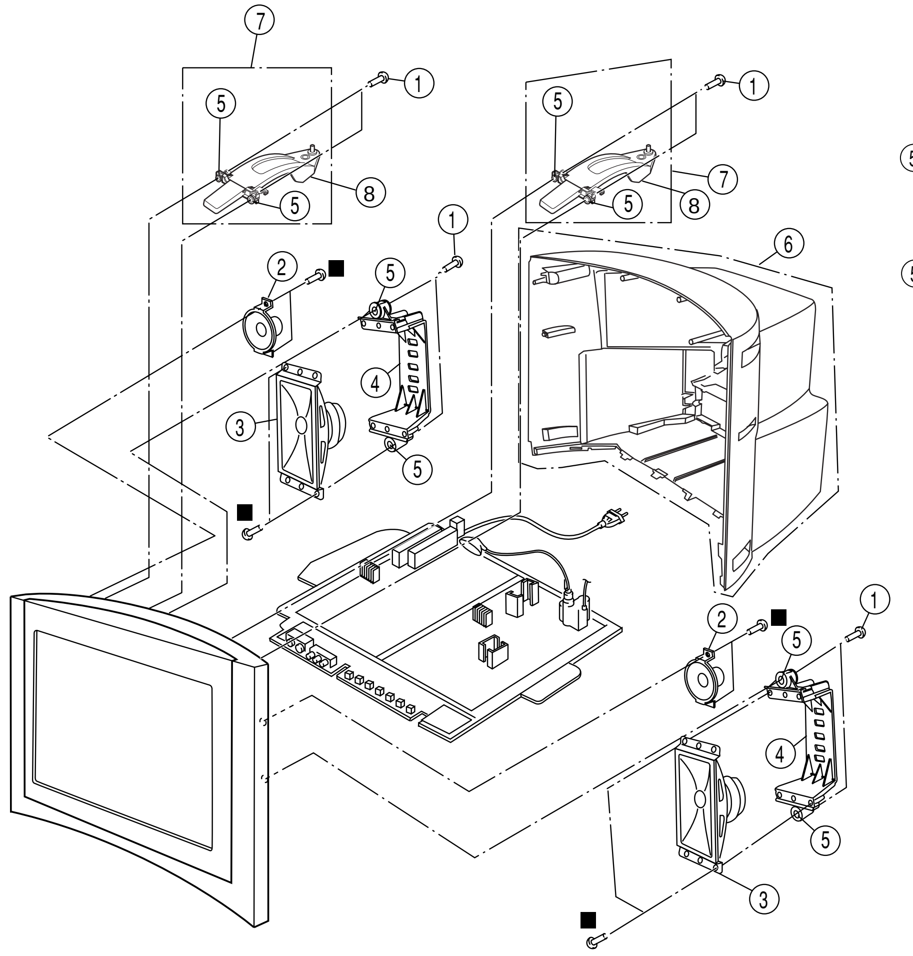
NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

8-1. SPEAKER BRACKET

■ : 7-685-663-71 SCREW +BVTP 4 × 16



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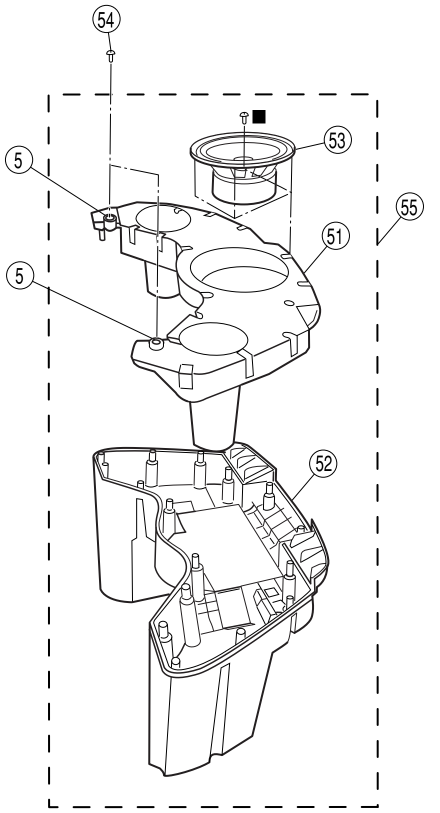
8-2. 3D SPEAKER

■ : 7-685-663-71 SCREW +BVTP 4 × 16

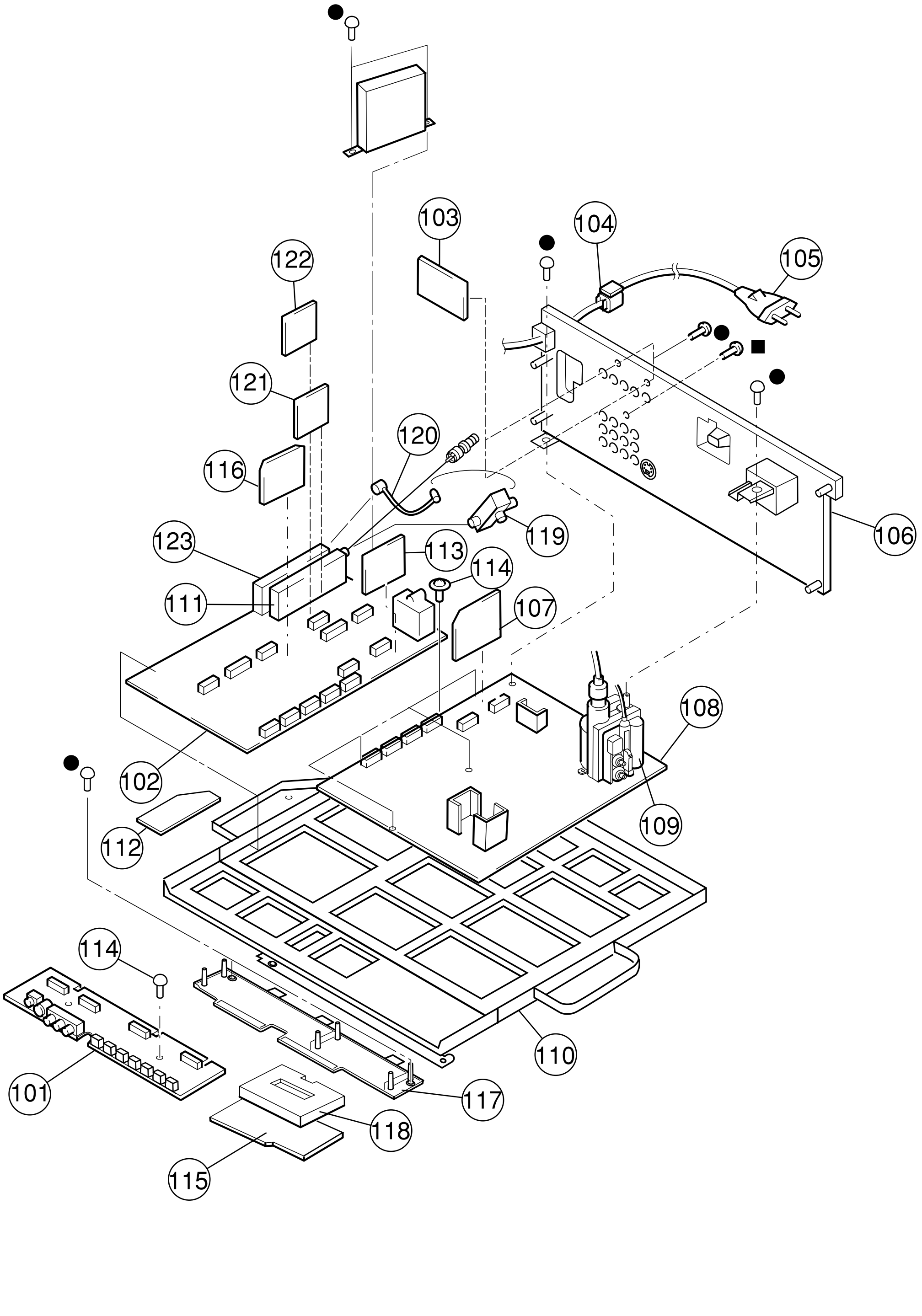


REF. NO.	PART NO.	DESCRIPTION	REMARK
1	4-302-404-03	SCREW (WASHER HEAD)(+P4 x 16)	
2	1-825-163-11	SPEAKER (5CM)	
3	1-825-164-11	SPEAKER (13 x 6CM)	
4	* 4-086-708-01	BRACKET,SPEAKER	
5	4-374-745-21	CUSHION (A)	
6	X-4040-341-1	REAR COVER (■ 14 SCREWS)	
7	* X-4039-979-1	BRACKET ASSY, WOOFER (KV-DR29M39/DR29M69/DR29M89)	5
8	* 4-086-709-01	BRACKET , WOOFER (29) (KV-DR29M63)	

REF. NO.	PART NO.	DESCRIPTION	REMARK
51	* 4-087-460-01	3D BOX, TOP	(■ 20 SCREWS)
52	* 4-087-461-01	3D BOX, BOTTOM	
53	1-825-162-11	SPEAKER (16CM)	
54	4-064-929-02	SCREW, TP+TWH 4x25	
55	A-1601-923-A	3D BOX ASSY	51-53

8-3. CHASSIS

●: 7-685-648-79 SCREW +BVTP 3 × 12
■: 7-685-663-71 SCREW +BVTP 4 × 16



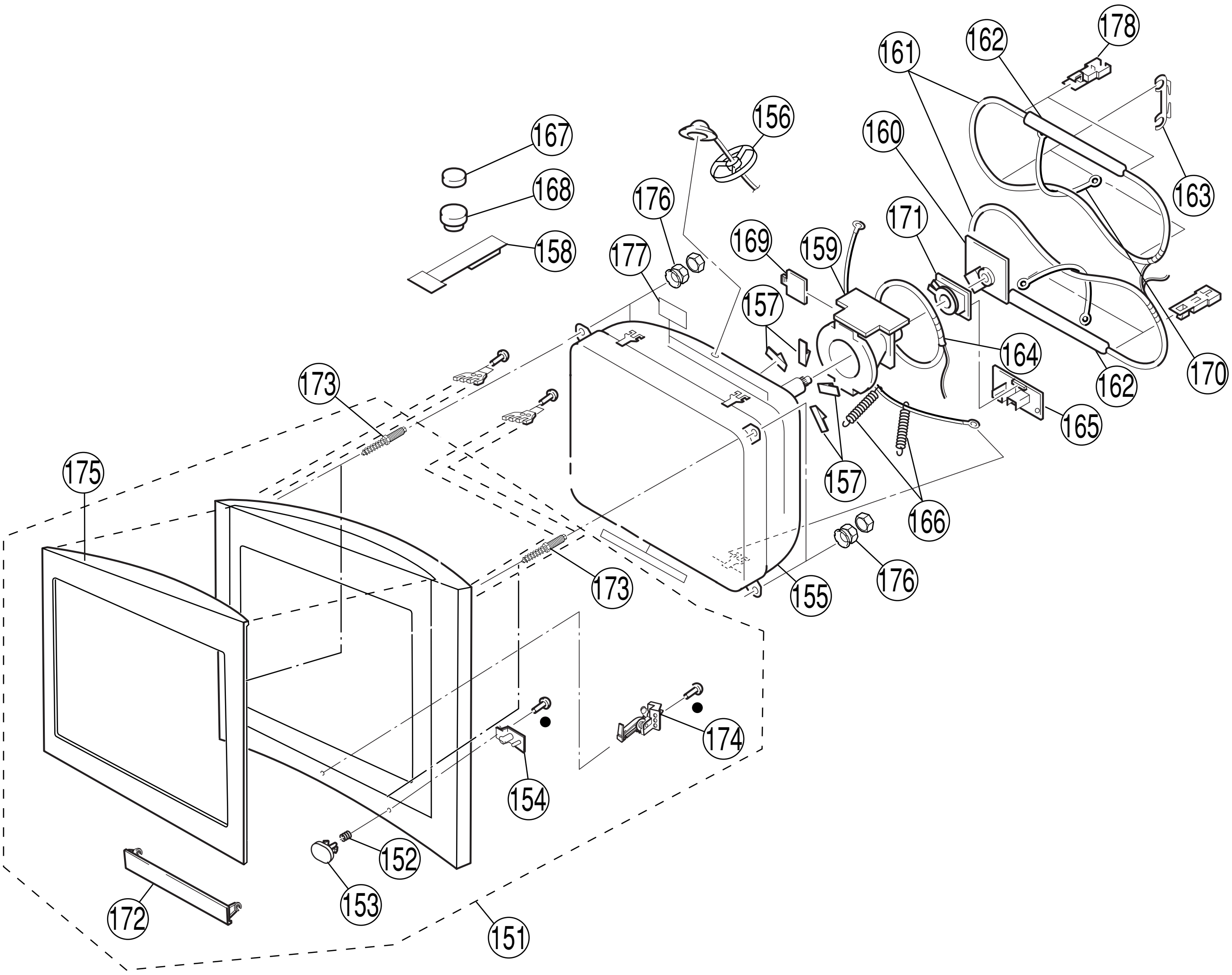
REF. NO.	PART NO.	DESCRIPTION	REMARK
101	* A-1400-491-A	H1 BOARD, MOUNTED (KV-DR29M39/DR29M69/DR29M89)	
	* A-1400-692-A	H1 BOARD, MOUNTED (KV-DR29M63)	
102	* A-1300-392-A	A BOARD, COMPLETE (KV-DR29M39)	
	* A-1300-386-A	A BOARD, COMPLETE (KV-DR29M63)	
	* A-1300-513-A	A BOARD, COMPLETE (KV-DR29M69)	
	* A-1300-404-A	A BOARD, COMPLETE (KV-DR29M89)	
103	* A-1400-500-A	J BOARD, MOUNTED (KV-DR29M39/DR29M69/DR29M89)	
	* A-1400-695-A	J BOARD, MOUNTED (KV-DR29M63)	
104	⚠ 4-022-115-12	HOLDER, AC CORD (KV-DR29M39/DR29M69/DR29M89)	
	⚠ 4-022-115-31	HOLDER, AC CORD (KV-DR29M63)	
105	⚠ 1-823-476-11	CORD, AC POWER (WITH FILTER) (KV-DR29M39)	
	⚠ 1-575-023-41	CORD, POWER (WITH CONNECTOR) (KV-DR29M63)	
	⚠ 1-823-551-11	CORD, AC POWER (WITH CONNECTOR) (KV-DR29M69/DR29M89)	
106	* 4-086-706-01	BRACKET, TERMINAL (KV-DR29M39/DR29M69/DR29M89)	
	* 4-086-706-11	BRACKET, TERMINAL (KV-DR29M63)	
107	* A-1400-486-A	D5 BOARD, MOUNTED (KV-DR29M39/DR29M69/DR29M89)	
	* A-1400-689-A	D5 BOARD, MOUNTED (KV-DR29M63)	
108	* A-1300-292-A	D BOARD, COMPLETE (KV-DR29M39)	
	* A-1300-387-A	D BOARD, COMPLETE (KV-DR29M63)	
	* A-1300-405-A	D BOARD, COMPLETE (KV-DR29M69/DR29M89)	
109	⚠ 1-453-325-12	TRANSFORMER ASSY, FLYBACK (NX-4522//M3B4)	
110	* 4-086-321-01	BRACKET, MAIN	
111	8-598-450-00	TUNER, FSS BTF-LG434 (KV-DR29M89)	
	8-598-451-20	TUNER, FSS BTF-WG441 (KV-DR29M63)	
	8-598-452-20	TUNER, FSS BTF-WG442 (KV-DR29M39/DR29M69)	
112	* A-1400-490-A	F1 BOARD, MOUNTED (KV-DR29M39)	
	* A-1400-691-A	F1 BOARD, MOUNTED (KV-DR29M63)	
	* A-1400-746-A	F1 BOARD, MOUNTED (KV-DR29M69/DR29M89)	
113	* A-1300-290-A	B3 BOARD, COMPLETE (KV-DR29M39/DR29M69/DR29M89)	
	* A-1300-385-A	B3 BOARD, COMPLETE (KV-DR29M63)	
114	4-046-797-01	SCREW (3 x 12)(+)BVTP (KV-DR29M39/DR29M69/DR29M89)	
	4-046-797-21	SCREW (3 x 12)(+)BVTP (KV-DR29M63)	
115	* A-1400-492-A	H2 BOARD MOUNTED (KV-DR29M39/DR29M69/DR29M89)	
	* A-1400-693-A	H2 BOARD MOUNTED (KV-DR29M63)	
116	* A-1300-298-A	BC1 BOARD MOUNTED (KV-DR29M39/DR29M69/DR29M89)	
	* A-1300-388-A	BC1 BOARD MOUNTED (KV-DR29M63)	
117	* 4-086-449-02	BRACKET, H	
118	* 4-086-450-01	COVER, H	
119	1-251-658-21	SPLITTER RF (KV-DR29M39/DR29M69/DR29M89)	
120	* 1-555-110-00	P-P CABLE (KV-DR29M39/DR29M69/DR29M89)	
121	A-1300-299-A	P BOARD COMPLETE (KV-DR29M39/DR29M69/DR29M89)	
122	A-1400-711-A	V2 BOARD MOUNTED (KV-DR29M39/DR29M69/DR29M89)	
123	8-598-450-10	TUNER, FSS BTF-LG434 (KV-DR29M39/DR29M69/DR29M89)	

8-4. PICTURE TUBE

● : 7-685-648-79 SCREW +BVTP 3 × 12
■ : 7-685-663-71 SCREW +BVTP 4 × 16

NOTE:

- The picture tube for OCE model is upside-down and the position for the anode cap and tension springs are changed accordingly. (KV-DR29M39 (OCE) only)



REF. NO.		PART NO.	DESCRIPTION	REMARK
151		X-4040-251-1	CABINET ASSY (KV-DR29M39/DR29M69)	152-154,172-175
		X-4040-194-1	CABINET ASSY (KV-DR29M63)	
		X-4040-190-1	CABINET ASSY (KV-DR29M89)	
152	*	4-036-405-11	SPRING, COMPRESSION (KV-DR29M39/DR29M69/DR29M89)	
	*	4-036-405-21	SPRING, COMPRESSION (KV-DR29M63)	
153	*	4-086-448-01	BUTTON, POWER (KV-DR29M39/DR29M69/DR29M89)	
	*	4-088-316-01	BUTTON, POWER (KV-DR29M63)	
154		4-086-707-01	GUIDE, LIGHT	
155	⚠	8-735-056-05	PICTURE TUBE (M68LNH070X) (KV-DR29M63)	
	⚠	8-735-057-05	PICTURE TUBE (M68LNH070X) (KV-DR29M39/DR29M69/DR29M89)	
156	*	3-704-372-11	HOLDER, HV CABLE (KV-DR29M39)	
157		4-046-600-11	SPACER, DY (KV-DR29M39/DR29M69/DR29M89)	
		4-064-818-01	SPACER, DY (KV-DR29M63)	
158		X-4387-214-3	PERMALOY ASSY, CORRECTION (KV-DR29M39/DR29M69/DR29M89)	
		4-051-734-42	PIECE B (120) CONV CORRECT (KV-DR29M63)	
159	⚠	8-451-504-61	DEFLECTION YOKE (Y29RSC-S2)	
160	*	A-1400-488-A	C BOARD, MOUNTED (KV-DR29M39/DR29M69/DR29M89)	
	*	A-1400-690-A	C BOARD, MOUNTED (KV-DR29M63)	
161	⚠	1-419-323-21	COIL, DEGAUSSING (KV-DR29M39)	
	⚠	1-419-323-31	COIL, DEGAUSSING (KV-DR29M63)	
	⚠	1-419-294-21	COIL, DEGAUSSING (KV-DR29M69/DR29M89)	

REF. NO.		PART NO.	DESCRIPTION	REMARK
162	*	4-063-935-21	CUSHION (50 x 550), DGC	
163		4-064-883-03	HOLDER, DGC	
164		1-452-896-11	COIL, NA ROTATION (RT200) (KV-DR29M39/DR29M69/DR29M89)	
		1-452-896-91	COIL, NA ROTATION (KV-DR29M63)	
165	*	A-1400-499-A	VM BOARD, MOUNTED (KV-DR29M39/DR29M69/DR29M89)	
	*	A-1400-694-A	VM BOARD, MOUNTED (KV-DR29M63)	
166		4-369-318-61	SPRING, TENSION (KV-DR29M39/DR29M69/DR29M89)	
		4-369-318-41	SPRING, TENSION (KV-DR29M63)	
167		1-452-032-00	MAGNET, DISC	
168		1-452-094-00	CIRCULAR DISC MAGNET B	
169		4-077-228-02	PIECE, TLH CONVERGENCE	
170		4-079-376-01	BAND, DGC - QUANTITY 2 (TOP(1), BOTTOM (1)) (KV-DR29M39 ONLY) - QUANTITY 1 (TOP(1) ONLY) (EXCEPT KV-DR29M39)	
171		8-453-011-41	NA299-C	
172		X-4039-978-1	DOOR ASSY CONTROL (KV-DR29M39/DR29M69/DR29M89)	
		X-4040-195-1	DOOR ASSY CONTROL (KV-DR29M63)	
173		4-079-175-01	SCREW, CRT (TAPPING 7+M8)	
174		4-083-848-02	DAMPER DOOR	
175		X-4039-976-1	BEZEL ASSY (■ 18 SCREWS)	
176		4-387-204-01	NUT, SPECIAL CRT	
177		4-069-652-02	CUSHION (HS BAND) (KV-DR29M39/DR29M69/DR29M89)	
		4-069-652-11	CUSHION (HS BAND) (KV-DR29M63)	
178	*	4-062-970-12	CLIP (29RSN), DGC	

SECTION 9
ELECTRICAL PARTS LIST

A

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

- All resistors are in ohms
- F : nonflammable

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

REF NO.	PART NO.	DESCRIPTION		REMARK	
	* A-1300-392-A	A BOARD COMPLETE (KV-DR29M39)			
	* A-1300-386-A	A BOARD COMPLETE (KV-DR29M63)			
	* A-1300-513-A	A BOARD COMPLETE (KV-DR29M69)			
	* A-1300-404-A	A BOARD COMPLETE (KV-DR29M89)			
		********************************			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		<CAPACITOR>			
C001	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C002	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C004	1-163-001-11	CERAMIC CHIP	220PF	10.00%	50V
C005	1-163-001-11	CERAMIC CHIP	220PF	10.00%	50V
C006	1-107-725-11	CERAMIC CHIP	0.1UF	10.00%	16V
C007	1-126-933-11	ELECT	100UF	20.00%	16V
C009	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C010	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C012	1-163-227-11	CERAMIC CHIP	10PF	0.50PF	50V
C013	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C014	1-126-967-11	ELECT	47UF	20.00%	50V
C015	1-163-227-11	CERAMIC CHIP	10PF	0.50PF	50V
C016	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
C017	1-163-247-91	CERAMIC CHIP	68PF	5.00%	50V
C020	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C021	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C022	1-163-809-11	CERAMIC CHIP	0.047UF	10.00%	25V
C024	1-163-227-11	CERAMIC CHIP	10PF	0.50PF	50V
C028	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C030	1-126-947-11	ELECT	47UF	20.00%	25V
C031	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C032	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C033	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C034	1-163-259-91	CERAMIC CHIP	220PF	5.00%	50V
C035	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C036	1-104-665-11	ELECT	100UF	20.00%	25V
C041	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C043	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C044	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C045	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C046	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C047	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C048	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C050	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C052	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C053	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C103	1-107-725-11	CERAMIC CHIP	0.1UF	10.00%	16V
C104	1-126-933-11	ELECT	100UF	20.00%	16V
C107	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C108	1-126-933-11	ELECT	100UF	20.00%	16V
C109	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C110	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C111	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C112	1-126-933-11	ELECT	100UF	20.00%	16V
C113	1-126-967-11	ELECT	47UF	20.00%	50V
C114	1-126-967-11	ELECT	47UF	20.00%	50V
C301	1-126-768-11	ELECT	2200UF	20.00%	16V
C326	1-126-963-11	ELECT	4.7UF	20.00%	50V
C1100	1-163-239-11	CERAMIC CHIP	33PF	5.00%	50V
C1101	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C1102	1-163-007-11	CERAMIC CHIP	680PF	10.00%	50V
C1200	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C1201	1-216-025-11	RES-CHIP	100	5%	1/10W
C1202	1-126-947-11	ELECT	47UF	20.00%	16V
C1203	1-126-947-11	ELECT	47UF	20.00%	16V
C1204	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C1205	1-107-698-11	ELECT	10UF	20.00%	25V
C1206	1-216-025-11	RES-CHIP	100	5%	1/10W
C1207	1-107-698-11	ELECT	10UF	20.00%	25V
C1208	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C1209	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C1210	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C1211	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C1215	1-126-960-11	ELECT	1UF	20.00%	50V
C1216	1-126-964-11	ELECT	10UF	20.00%	50V
C1217	1-104-665-11	ELECT	100UF	20.00%	25V
C1220	1-126-960-11	ELECT	1UF	20.00%	50V
C1222	1-110-501-11	CERAMIC CHIP	0.33UF	10.00%	16V
C1223	1-126-963-11	ELECT	4.7UF	20.00%	50V
C1224	1-126-963-11	ELECT	4.7UF	20.00%	50V
C1225	1-126-963-11	ELECT	4.7UF	20.00%	50V
C1226	1-126-963-11	ELECT	4.7UF	20.00%	50V
C1227	1-126-963-11	ELECT	4.7UF	20.00%	50V
C1228	1-126-963-11	ELECT	4.7UF	20.00%	50V
C1229	1-126-963-11	ELECT	4.7UF	20.00%	50V
C1230	1-126-963-11	ELECT	4.7UF	20.00%	50V
C1232	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C1233	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C1234	1-126-974-11	ELECT	3300UF	20.00%	50V
C1235	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C1236	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C1237	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C1238	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C1239	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C1241	1-128-550-11	ELECT	2200UF	20.00%	50V
C1243	1-126-974-11	ELECT	3300UF	20.00%	50V
C1244	1-128-550-11	ELECT	2200UF	20.00%	50V
C1245	1-128-550-11	ELECT	2200UF	20.00%	50V
C1247	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C1248	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C1249	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C1250	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C1251	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V

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REF NO.	PART NO.	DESCRIPTION		REMARK	
C1252	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C1253	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C1254	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1255	1-126-941-11	ELECT	470UF	20.00%	25V
C1256	1-126-964-11	ELECT	10UF	20.00%	50V
C1257	1-126-933-11	ELECT	100UF	20.00%	16V
C1258	1-126-960-11	ELECT	1UF	20.00%	50V
C1259	1-126-964-11	ELECT	10UF	20.00%	50V
C1261	1-126-960-11	ELECT	1UF	20.00%	50V
C1262	1-126-957-11	ELECT	0.22UF	20.00%	50V
C1263	1-126-965-91	ELECT	22UF	20.00%	50V
C1264	1-126-965-91	ELECT	22UF	20.00%	50V
C1265	1-249-429-11	CARBON	10K	5%	1/4W
C1266	1-126-960-11	ELECT	1UF	20.00%	50V
C1267	1-137-374-11	MYLAR	0.047UF	5.00%	50V
C1268	1-163-018-00	CERAMIC CHIP	0.0056UF	10.00%	50V
C1270	1-163-018-00	CERAMIC CHIP	0.0056UF	10.00%	50V
C1271	1-137-374-11	MYLAR	0.047UF	5.00%	50V
C1273	1-126-964-11	ELECT	10UF	20.00%	50V
C1274	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C1275	1-126-948-11	ELECT	100UF	20.00%	35V
C1276	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C1277	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C1279	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C1280	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C1281	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C1282	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C1283	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C1284	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C1285	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C1286	1-164-182-11	CERAMIC CHIP	0.0033UF	10.00%	50V
C1287	1-164-182-11	CERAMIC CHIP	0.0033UF	10.00%	50V
C1288	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V
C1289	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V
C1291	1-104-665-11	ELECT	100UF	20.00%	25V
C1292	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C1293	1-163-019-00	CERAMIC CHIP	0.0068UF	10.00%	50V
C1295	1-126-964-11	ELECT	10UF	20.00%	50V
C1296	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C1297	1-137-374-11	MYLAR	0.047UF	5.00%	50V
C1298	1-126-960-11	ELECT	1UF	20.00%	50V
C1301	1-126-933-11	ELECT	100UF	20.00%	16V
		(KV-DR29M39/M69/M89)			
C1302	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
		(KV-DR29M39/M69/M89)			
C1312	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C1322	1-137-374-11	MYLAR	0.047UF	5.00%	50V
C1323	1-136-165-00	FILM	0.1UF	5.00%	50V
C2200	1-126-964-11	ELECT	10UF	20.00%	50V
C2201	1-126-964-11	ELECT	10UF	20.00%	50V
C2202	1-126-964-11	ELECT	10UF	20.00%	50V
C2203	1-126-963-11	ELECT	4.7UF	20.00%	50V
C2204	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C2205	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C2206	1-126-964-11	ELECT	10UF	20.00%	50V
C2207	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C2208	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C2209	1-126-968-11	ELECT	100UF	20.00%	50V
C2600	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C2601	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C2602	1-126-933-11	ELECT	100UF	20.00%	16V

REF NO.	PART NO.	DESCRIPTION		REMARK	
C2603	1-126-933-11	ELECT	100UF	20.00%	16V
C2605	1-104-665-11	ELECT	100UF	20.00%	10V
C2606	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C2607	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C2609	1-104-665-11	ELECT	100UF	20.00%	10V
C2612	1-104-665-11	ELECT	100UF	20.00%	25V
C2613	1-126-936-11	ELECT	3300UF	20.00%	16V
C2615	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C2616	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C3001	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3002	1-109-982-11	CERAMIC CHIP	1UF	10.00%	10V
C3003	1-109-982-11	CERAMIC CHIP	1UF	10.00%	10V
C3005	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C3006	1-126-964-11	ELECT	10UF	20.00%	50V
C3007	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C3008	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C3010	1-126-947-11	ELECT	47UF	20.00%	16V
C3012	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C3013	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C3015	1-107-725-11	CERAMIC CHIP	0.1UF	10.00%	16V
C3019	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C3020	1-109-982-11	CERAMIC CHIP	1UF	10.00%	10V
C3021	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3033	1-126-947-11	ELECT	47UF	20.00%	16V
C3034	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C3037	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3038	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3039	1-216-295-91	SHORT CHIP	0		
C3040	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3041	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C3042	1-126-947-11	ELECT	47UF	20.00%	16V
C3043	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3044	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3045	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3046	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3330	1-107-725-11	CERAMIC CHIP	0.1UF	10.00%	16V
		(KV-DR29M39/M69/M89)			
C3331	1-126-933-11	ELECT	100UF	20.00%	16V
		(KV-DR29M39/M69/M89)			
C3336	1-126-933-11	ELECT	100UF	20.00%	16V
		(KV-DR29M39/M69/M89)			
C3338	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
		(KV-DR29M39/M69/M89)			
C3350	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
		(KV-DR29M39/M69/M89)			
C3351	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
		(KV-DR29M39/M69/M89)			
C3352	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
		(KV-DR29M39/M69/M89)			
C3353	1-126-933-11	ELECT	100UF	20.00%	16V
		(KV-DR29M39/M69/M89)			
C3354	1-126-967-11	ELECT	47UF	20.00%	50V
		(KV-DR29M39/M69/M89)			
C3355	1-126-967-11	ELECT	47UF	20.00%	50V
		(KV-DR29M39/M69/M89)			
C4301	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4302	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4303	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4304	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4305	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4306	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4307	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C4308	1-164-492-11	CERAMIC CHIP	0.15UF	10.00%	16V

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REF NO.	PART NO.	DESCRIPTION		REMARK	
C4309	1-125-838-11	CERAMIC CHIP	2.2UF	10%	6.3V
C4310	1-107-902-11	ELECT	1UF	20.00%	50V
C4311	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4312	1-126-933-11	ELECT	100UF	20.00%	16V
C4313	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4314	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4315	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4316	1-126-933-11	ELECT	100UF	20.00%	16V
C4317	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4318	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C4319	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C4321	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C4322	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C4323	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4324	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C4325	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4326	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C4327	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4328	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4330	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4331	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C4333	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C4334	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4335	1-115-185-11	CERAMIC CHIP	0.033UF	10.00%	50V
C4336	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C4339	1-136-244-11	FILM	0.1UF	5.00%	50V
C4341	1-130-489-00	MYLAR	0.033UF	5.00%	50V
C4342	1-164-344-11	CERAMIC CHIP	0.068UF	10.00%	25V
C4343	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4344	1-126-933-11	ELECT	100UF	20.00%	16V
C4345	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C4346	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C4347	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4348	1-126-947-11	ELECT	47UF	20.00%	25V
C4349	1-127-760-11	CERAMIC CHIP	4.7UF	10%	6.3V
C4352	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4354	1-164-161-11	CERAMIC CHIP	0.0022UF	10.00%	50V
C4355	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C4356	1-126-933-11	ELECT	100UF	20.00%	16V
C4357	1-126-947-11	ELECT	47UF	20.00%	25V
C4358	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4359	1-126-947-11	ELECT	47UF	20.00%	25V
C4360	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4361	1-164-161-11	CERAMIC CHIP	0.0022UF	10.00%	50V
C4362	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4367	1-216-295-91	SHORT CHIP	0		
C4368	1-126-947-11	ELECT	47UF	20.00%	25V
C4369	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4370	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4371	1-126-947-11	ELECT	47UF	20.00%	25V
C4373	1-126-934-11	ELECT	220UF	20.00%	16V
C4374	1-126-934-11	ELECT	220UF	20.00%	16V
C4375	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4376	1-126-933-11	ELECT	100UF	20.00%	16V
C4383	1-126-965-91	ELECT	22UF	20.00%	50V
C4384	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4390	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C4394	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C4396	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C8300	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V

REF NO.	PART NO.	DESCRIPTION		REMARK	
C8301	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C8302	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C8303	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C8304	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C8305	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C8306	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C8307	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C8308	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C8309	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C8310	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C8311	1-164-346-11	CERAMIC CHIP	1UF		16V
C8312	1-164-346-11	CERAMIC CHIP	1UF		16V
C8313	1-164-346-11	CERAMIC CHIP	1UF		16V
C8314	1-164-346-11	CERAMIC CHIP	1UF		16V
C8315	1-164-346-11	CERAMIC CHIP	1UF		16V
		(KV-DR29M39/M69/M89)			
C8316	1-164-346-11	CERAMIC CHIP	1UF		16V
		(KV-DR29M39/M69/M89)			
C8317	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8318	1-164-346-11	CERAMIC CHIP	1UF		16V
C8319	1-164-346-11	CERAMIC CHIP	1UF		16V
C8320	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C8321	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C8322	1-164-346-11	CERAMIC CHIP	1UF		16V
C8323	1-164-346-11	CERAMIC CHIP	1UF		16V
C8324	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C8325	1-126-935-11	ELECT	470UF	20.00%	16V
C8326	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C8329	1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C8330	1-164-346-11	CERAMIC CHIP	1UF		16V
C8331	1-164-346-11	CERAMIC CHIP	1UF		16V
C8334	1-126-947-11	ELECT	47UF	20.00%	16V
C8335	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8336	1-126-947-11	ELECT	47UF	20.00%	16V
C8337	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8338	1-164-346-11	CERAMIC CHIP	1UF		16V
C8339	1-164-346-11	CERAMIC CHIP	1UF		16V
C8340	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C8341	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C8342	1-126-964-11	ELECT	10UF	20.00%	50V
C8343	1-126-947-11	ELECT	47UF	20.00%	16V
C8346	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8349	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C8354	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C8355	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C8356	1-164-346-11	CERAMIC CHIP	1UF		16V
C8357	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C8358	1-164-346-11	CERAMIC CHIP	1UF		16V
C8359	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C8360	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C8361	1-126-961-11	ELECT	2.2UF	20.00%	50V
C8366	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C8367	1-126-947-11	ELECT	47UF	20.00%	16V
C8368	1-126-947-11	ELECT	47UF	20.00%	16V
C8369	1-126-947-11	ELECT	47UF	20.00%	16V
C8370	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8371	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8372	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8373	1-163-227-11	CERAMIC CHIP	10PF	0.50PF	50V
C8375	1-126-964-11	ELECT	10UF	20.00%	50V
C8376	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8377	1-164-346-11	CERAMIC CHIP	1UF		16V
		(KV-DR29M39/M69/M89)			

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REF NO.	PART NO.	DESCRIPTION			REMARK
C8378	1-164-346-11	CERAMIC CHIP	1UF		16V
		(KV-DR29M39/M69/M89)			
C8379	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C8380	1-164-346-11	CERAMIC CHIP	1UF		16V
		(KV-DR29M39/M69/M89)			
C8381	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C8382	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8383	1-164-346-11	CERAMIC CHIP	1UF		16V
		(KV-DR29M39/M69/M89)			
C8384	1-164-346-11	CERAMIC CHIP	1UF		16V
		(KV-DR29M39/M69/M89)			
C8385	1-164-346-11	CERAMIC CHIP	1UF		16V
		(KV-DR29M39/M69/M89)			
C8386	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8390	1-126-963-11	ELECT	4.7UF	20.00%	50V
C8391	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8392	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8393	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8394	1-216-295-91	SHORT CHIP	0		
C8411	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C8413	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C8430	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C8441	1-164-346-11	CERAMIC CHIP	1UF		16V
C8446	1-126-947-11	ELECT	47UF	20.00%	16V
C8447	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8448	1-164-690-91	CERAMIC CHIP	0.0022UF	5.00%	50V
C8450	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C8451	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C8452	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8453	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8454	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8455	1-126-947-11	ELECT	47UF	20.00%	16V
C8456	1-126-947-11	ELECT	47UF	20.00%	16V
C8457	1-126-947-11	ELECT	47UF	20.00%	16V
C8459	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8462	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8480	1-164-346-11	CERAMIC CHIP	1UF		16V

<CONNECTOR>

REF NO.	PART NO.	DESCRIPTION
CN1100	* 1-785-608-11	PIN, CONNECTOR 4P
CN1108	1-793-494-11	CONNECTOR, BOARD TO BOARD 40P
CN1114	* 1-564-507-11	PLUG, CONNECTOR 4P
CN1116	1-695-915-11	TAB (CONTACT)
CN1118	* 1-774-813-11	CONNECTOR, BOARD TO BOARD 7P
		(KV-DR29M39/M69/M89)
CN1121	* 1-774-813-11	CONNECTOR, BOARD TO BOARD 7P
CN1190	* 1-764-333-11	PLUG, CONNECTOR 10P
CN1193	* 1-764-333-11	PLUG, CONNECTOR 10P
CN4301	* 1-564-515-11	PLUG, CONNECTOR 12P
CN8301	* 1-764-333-11	PLUG, CONNECTOR 10P
CN8302	* 1-564-511-11	PLUG, CONNECTOR 8P
CN8401	1-793-493-11	CONNECTOR, BOARD TO BOARD 20P
CN8402	1-793-493-11	CONNECTOR, BOARD TO BOARD 20P
		(KV-DR29M39/M69/M89)

<DIODE>

REF NO.	PART NO.	DESCRIPTION	REMARK
D001	8-719-081-97	MMDL914T1	
D002	8-719-081-97	MMDL914T1	
D003	8-719-081-97	MMDL914T1	
D004	8-719-081-97	MMDL914T1	
D005	8-719-081-97	MMDL914T1	
D006	8-719-081-97	MMDL914T1	
D007	8-719-158-18	RD5.6SB3	
D013	8-719-158-18	RD5.6SB3	
D100	8-719-081-97	MMDL914T1	
D300	1-216-295-91	SHORT CHIP 0	
D301	8-719-081-97	MMDL914T1	
D302	8-719-081-97	MMDL914T1	
D303	8-719-081-97	MMDL914T1	
D317	8-719-081-97	MMDL914T1	
D1200	8-719-978-69	DTZ-TT11-16B (KV-DR29M39/M69/M89)	
D1200	8-719-083-52	UDZS-TE17-16B (KV-DR29M63)	
D1201	8-719-081-97	MMDL914T1	
D1202	8-719-081-97	MMDL914T1	
D1203	8-719-081-97	MMDL914T1	
D1204	8-719-081-97	MMDL914T1	
D1211	8-719-041-97	MA113-(TX)	
D1214	8-719-041-97	MA113-(TX)	
D1216	8-719-081-97	MMDL914T1	
D1217	8-719-081-97	MMDL914T1	
D1218	8-719-081-97	MMDL914T1	
D2200	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D2200	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D2201	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D2201	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D4301	8-719-081-97	MMDL914T1	
D4302	1-216-295-91	SHORT CHIP 0	
D4305	8-719-109-81	RD4.7ESB2	
D4308	8-719-081-97	MMDL914T1	
D4312	8-719-401-63	MA3062M-TX	
D4313	8-719-050-38	DIODE M1MA152WK-T1	
D4314	8-719-050-38	DIODE M1MA152WK-T1	
D4315	8-719-069-60	UDZSTE-179.1B	
D4317	8-719-081-97	MMDL914T1	
D4318	8-719-081-97	MMDL914T1	
D4319	8-719-081-97	MMDL914T1	
D4322	1-216-295-91	SHORT CHIP 0	
D4323	8-719-081-97	MMDL914T1	
D4324	8-719-081-97	MMDL914T1	
D8301	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8301	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8302	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8302	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8303	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8303	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8304	8-719-158-35	RD9.1S-B KV-DR29M39/M69/M89)	
D8304	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8305	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8305	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8306	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8306	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8307	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8307	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8308	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8308	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8309	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8309	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8310	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8310	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8311	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8311	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	

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REF NO.	PART NO.	DESCRIPTION	REMARK
D8312	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8312	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8313	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8313	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8314	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8314	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8315	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8315	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8316	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8316	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8320	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8320	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8321	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8321	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8322	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8322	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8323	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8323	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8324	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8324	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8325	8-719-158-35	RD9.1S-B (KV-DR29M39/M69/M89)	
D8325	8-719-069-60	UDZSTE-179.1B (KV-DR29M63)	
D8331	8-719-041-97	MA113-(TX)	

<FERRITE BEAD>

REF NO.	PART NO.	DESCRIPTION	REMARK
FB002	1-414-233-22	FERRITE	0UH
FB003	1-414-233-22	FERRITE	0UH
FB004	1-414-233-22	FERRITE	0UH
FB005	1-414-233-22	FERRITE	0UH
FB006	1-414-233-22	FERRITE	0UH
FB008	1-414-233-22	FERRITE	0UH
FB1300	1-216-295-91	SHORT CHIP	0 (KV-DR29M39/M69/M89)
FB4301	1-216-295-91	SHORT CHIP	0
FB4302	1-216-295-91	SHORT CHIP	0
FB4303	1-216-295-91	SHORT CHIP	0

<FILTER>

REF NO.	PART NO.	DESCRIPTION	REMARK
FL001	1-236-071-11	ENCAPSULATED COMPONENT	
FL8301	1-236-071-11	ENCAPSULATED COMPONENT	
FL8303	1-236-071-11	ENCAPSULATED COMPONENT	
FL8304	1-236-071-11	ENCAPSULATED COMPONENT	
FL8305	1-236-071-11	ENCAPSULATED COMPONENT	
FL8311	1-236-071-11	ENCAPSULATED COMPONENT	
FL8312	1-236-071-11	ENCAPSULATED COMPONENT	

<IC>

REF NO.	PART NO.	DESCRIPTION	REMARK
IC001	8-752-932-01	IC CXP750096-046Q	
IC002	8-759-663-29	MM1476AF(TP)	
IC003	8-759-641-86	BR24C16F-E2 (KV-DR29M39/M69/M89)	
IC003	8-759-699-33	M24C16-MN6T(A) (KV-DR29M63)	
IC100	8-759-042-02	S-80743AL-A7-S	
IC1200	8-759-100-96	UPC4558G2	
IC1203	8-759-100-96	UPC4558G2	
IC1204	8-759-690-61	AN7583Z	
IC1205	8-759-711-10	NJU4066BM	
IC1207	6-702-145-01	IC NJW1139GK1-TE2	
IC2200	8-759-745-64	NJM4560M	
IC2600	8-759-095-63	PQ09RF2	
IC2601	8-759-065-07	PQ05RF2	
IC2603	8-759-460-72	BA033FP-E2	
IC3001	8-752-093-84	CXA2151Q	
IC3002	8-759-677-02	BU4053BCF-E2	
IC3003	8-759-548-56	M52055FP	
IC4301	8-752-100-25	CXA2150AQ	
IC4302	8-759-708-05	NJM78L05A	
IC4304	8-759-135-80	UPC358C	
IC8302	8-752-080-04	CXA2069Q	
IC8306	8-752-099-05	IC CXA2163AQ-T6	
IC8309	8-759-337-26	MM1115XFBE	
IC8310	8-759-542-15	TDA9178	
IC8312	8-759-485-79	TC7SET08FU(TE85L	

<JACK>

REF NO.	PART NO.	DESCRIPTION	REMARK
J8301	1-784-646-11	TERMINAL, S	
J8302	1-778-387-11	JACK BLOCK, PIN 12P	

<CHIP CONDUCTOR>

REF NO.	PART NO.	DESCRIPTION	REMARK
JR001	1-216-295-91	SHORT CHIP	0
JR102	1-216-295-91	SHORT CHIP	0
JR107	1-216-295-91	SHORT CHIP	0
JR109	1-216-295-91	SHORT CHIP	0 (KV-DR29M89)
JR1214	1-216-295-91	SHORT CHIP	0
JR1219	1-216-295-91	SHORT CHIP	0
JR1301	1-216-295-91	SHORT CHIP	0 (KV-DR29M39/M69/M89)
JR1303	1-216-295-91	SHORT CHIP	0 (KV-DR29M39/M69/M89)
JR4301	1-216-295-91	SHORT CHIP	0
JR8301	1-216-295-91	SHORT CHIP	0
JR8302	1-216-295-91	SHORT CHIP	0

<COIL>

REF NO.	PART NO.	DESCRIPTION	REMARK
L001	1-414-856-11	INDUCTOR	10UH
L002	1-414-856-11	INDUCTOR	10UH
L003	1-414-751-11	INDUCTOR	1UH
L005	1-414-856-11	INDUCTOR	10UH
L006	1-414-856-11	INDUCTOR	10UH
L101	1-414-856-11	INDUCTOR	10UH
L102	1-414-856-11	INDUCTOR	10UH
L103	1-414-856-11	INDUCTOR	10UH
L104	1-414-856-11	INDUCTOR	10UH
L105	1-414-856-11	INDUCTOR	10UH
L1200	1-414-856-11	INDUCTOR	10UH
L1201	1-414-856-11	INDUCTOR	10UH
L1300	1-414-856-11	INDUCTOR (KV-DR29M39/M69/M89)	10UH
L3001	1-469-555-21	INDUCTOR	10UH
L3002	1-412-029-11	INDUCTOR	10UH
L3003	1-412-029-11	INDUCTOR	10UH
L3302	1-414-856-11	INDUCTOR (KV-DR29M39/M69/M89)	10UH
L3303	1-414-856-11	INDUCTOR (KV-DR29M39/M69/M89)	10UH
L3304	1-414-856-11	INDUCTOR (KV-DR29M39/M69/M89)	10UH
L3305	1-414-856-11	INDUCTOR (KV-DR29M39/M69/M89)	10UH
L3306	1-414-856-11	INDUCTOR (KV-DR29M39/M69/M89)	10UH
L4301	1-412-029-11	INDUCTOR	10UH

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REF NO.	PART NO.	DESCRIPTION		REMARK
L4302	1-412-029-11	INDUCTOR	10UH	
L4303	1-412-029-11	INDUCTOR	10UH	
L4304	1-412-029-11	INDUCTOR	10UH	
L4305	1-412-029-11	INDUCTOR	10UH	
L4306	1-412-029-11	INDUCTOR	10UH	
L4307	1-412-029-11	INDUCTOR	10UH	
		<IC LINK>		
PS1201	1-533-597-41	LINK, IC		
		<TRANSISTOR>		
Q001	8-729-010-05	MSB709-RT1		
Q002	8-729-010-25	MSD601-RT1		
Q003	8-729-010-25	MSD601-RT1		
Q004	8-729-010-25	MSD601-RT1		
Q101	8-729-010-05	MSB709-RT1		
Q301	8-729-010-05	MSB709-RT1		
Q302	8-729-010-05	MSB709-RT1		
Q313	8-729-010-25	MSD601-RT1		
Q1203	8-729-027-44	DTC114TKA-T146		
Q1204	8-729-224-62	2SK246-GR		
Q1205	8-729-230-49	2SC2712-YG (KV-DR29M39/M69/M89)		
Q1205	8-729-422-27	2SD601A-Q (KV-DR29M63)		
Q1206	8-729-230-49	2SC2712-YG (KV-DR29M39/M69/M89)		
Q1206	8-729-422-27	2SD601A-Q (KV-DR29M63)		
Q1207	8-729-010-05	MSB709-RT1		
Q1208	8-729-027-44	DTC114TKA-T146		
Q1209	8-729-027-44	DTC114TKA-T146		
Q1210	8-729-027-44	DTC114TKA-T146		
Q2200	8-729-027-56	DTC143TKA-T146		
Q2201	8-729-027-56	DTC143TKA-T146		
Q3001	8-729-102-07	2SC2223-F13		
Q3002	8-729-102-07	2SC2223-F13		
Q3003	8-729-102-07	2SC2223-F13		
Q3014	8-729-010-05	MSB709-RT1		
Q3015	8-729-102-07	2SC2223-F13		
Q3018	8-729-102-07	2SC2223-F13		
Q3023	8-729-102-07	2SC2223-F13		
Q3300	8-729-010-05	MSB709-RT1 (KV-DR29M39/M69/M89)		
Q4301	8-729-010-25	MSD601-RT1		
Q4305	8-729-010-25	MSD601-RT1		
Q4306	8-729-216-22	2SA1162-G		
Q4307	8-729-010-25	MSD601-RT1		
Q4308	8-729-216-22	2SA1162-G		
Q4309	8-729-216-22	2SA1162-G		
Q4310	8-729-010-25	MSD601-RT1		
Q4314	8-729-421-19	UN2213		
Q4315	8-729-010-25	MSD601-RT1		
Q4316	8-729-216-22	2SA1162-G		
Q4317	8-729-216-22	2SA1162-G		
Q4318	8-729-216-22	2SA1162-G		
Q4319	8-729-216-22	2SA1162-G		
Q4320	8-729-010-25	MSD601-RT1		
Q4321	8-729-216-22	2SA1162-G		
Q4330	8-729-216-22	2SA1162-G		
Q4335	8-729-216-22	2SA1162-G		
Q4336	8-729-216-22	2SA1162-G		
Q4337	8-729-216-22	2SA1162-G		
Q4340	8-729-010-25	MSD601-RT1		

REF NO.	PART NO.	DESCRIPTION				REMARK
Q4341	8-729-010-25	MSD601-RT1				
Q8301	8-729-010-05	MSB709-RT1				
Q8302	8-729-010-25	MSD601-RT1				
Q8303	8-729-010-25	MSD601-RT1				
Q8304	8-729-010-25	MSD601-RT1				
Q8305	8-729-010-05	MSB709-RT1				
Q8306	8-729-010-25	MSD601-RT1				
Q8307	8-729-010-25	MSD601-RT1				
Q8310	8-729-010-25	MSD601-RT1				
Q8319	8-729-010-05	MSB709-RT1				
Q8320	8-729-010-05	MSB709-RT1				
Q8321	8-729-010-05	MSB709-RT1				
Q8326	8-729-010-25	MSD601-RT1				
Q8327	8-729-421-19	UN2213				
Q8328	8-729-421-19	UN2213				
Q8329	8-729-010-25	MSD601-RT1				
Q8330	8-729-010-25	MSD601-RT1				
Q8331	8-729-010-25	MSD601-RT1				
Q8332	8-729-010-25	MSD601-RT1				
Q8333	8-729-010-25	MSD601-RT1				
Q8334	8-729-010-25	MSD601-RT1				
Q8335	8-729-010-25	MSD601-RT1				
Q8336	8-729-010-25	MSD601-RT1				
Q8351	8-729-010-25	MSD601-RT1				
Q8352	8-729-010-05	MSB709-RT1				
Q8361	8-729-010-25	MSD601-RT1				
Q8362	8-729-010-25	MSD601-RT1				
Q8363	8-729-010-25	MSD601-RT1				
Q8364	8-729-010-05	MSB709-RT1				
Q8365	8-729-010-25	MSD601-RT1				
		<RESISTOR>				
R001	1-216-033-00	RES-CHIP	220	5%	1/10W	
R002	1-216-033-00	RES-CHIP	220	5%	1/10W	
R004	1-216-295-91	SHORT CHIP	0			
R005	1-216-295-91	SHORT CHIP	0			
R006	1-216-029-00	RES-CHIP	150	5%	1/10W	
R010	1-216-061-91	RES-CHIP	3.3K	5%	1/10W	
R011	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	
R012	1-216-061-91	RES-CHIP	3.3K	5%	1/10W	
R013	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	
R014	1-216-025-11	RES-CHIP	100	5%	1/10W	
R015	1-216-025-11	RES-CHIP	100	5%	1/10W	
R016	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	
R017	1-216-049-11	RES-CHIP	1K	5%	1/10W	
R018	1-216-045-00	RES-CHIP	680	5%	1/10W	
R019	1-216-049-11	RES-CHIP	1K	5%	1/10W	
R020	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	
R022	1-216-033-00	RES-CHIP	220	5%	1/10W	
R023	1-216-025-11	RES-CHIP	100	5%	1/10W	
R024	1-216-063-91	RES-CHIP	3.9K	5%	1/10W	
R025	1-216-049-11	RES-CHIP	1K	5%	1/10W	
R026	1-216-049-11	RES-CHIP	1K	5%	1/10W	
R027	1-216-049-11	RES-CHIP	1K	5%	1/10W	
R028	1-216-049-11	RES-CHIP	1K	5%	1/10W	
R029	1-216-049-11	RES-CHIP	1K	5%	1/10W	
R031	1-216-033-00	RES-CHIP	220	5%	1/10W	
R032	1-216-049-11	RES-CHIP	1K	5%	1/10W	
R033	1-216-033-00	RES-CHIP	220	5%	1/10W	
R035	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	

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REF NO.	PART NO.	DESCRIPTION		REMARK	
R036	1-216-033-00	RES-CHIP	220	5%	1/10W
R037	1-216-033-00	RES-CHIP	220	5%	1/10W
R038	1-216-045-00	RES-CHIP	680	5%	1/10W
R039	1-216-025-11	RES-CHIP	100	5%	1/10W
R040	1-216-033-00	RES-CHIP	220	5%	1/10W
R041	1-216-025-11	RES-CHIP	100	5%	1/10W
R042	1-216-295-91	SHORT CHIP	0		
R043	1-216-025-11	RES-CHIP	100	5%	1/10W
R044	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R045	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R046	1-216-033-00	RES-CHIP	220	5%	1/10W
R047	1-216-033-00	RES-CHIP	220	5%	1/10W
R048	1-216-073-91	RES-CHIP	10K	5%	1/10W
R051	1-216-049-11	RES-CHIP	1K	5%	1/10W
R052	1-216-049-11	RES-CHIP	1K	5%	1/10W
R053	1-216-049-11	RES-CHIP	1K	5%	1/10W
R054	1-216-049-11	RES-CHIP	1K	5%	1/10W
R057	1-216-025-11	RES-CHIP	100	5%	1/10W
R059	1-216-073-91	RES-CHIP	10K	5%	1/10W
R061	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R065	1-216-045-00	RES-CHIP	680	5%	1/10W
R067	1-216-049-11	RES-CHIP	1K	5%	1/10W
R068	1-216-073-91	RES-CHIP	10K	5%	1/10W
R070	1-216-033-00	RES-CHIP	220	5%	1/10W
R071	1-216-025-11	RES-CHIP	100	5%	1/10W
R072	1-216-025-11	RES-CHIP	100	5%	1/10W
R073	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R074	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R075	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R076	1-216-295-91	SHORT CHIP	0		
R077	1-216-025-11	RES-CHIP	100	5%	1/10W
R078	1-216-295-91	SHORT CHIP	0		
R079	1-216-025-11	RES-CHIP	100	5%	1/10W
R080	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R081	1-216-025-11	RES-CHIP	100	5%	1/10W
R082	1-216-041-00	RES-CHIP	470	5%	1/10W
R083	1-216-049-11	RES-CHIP	1K	5%	1/10W
R084	1-216-049-11	RES-CHIP	1K	5%	1/10W
R085	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R086	1-216-073-91	RES-CHIP	10K	5%	1/10W
R087	1-216-033-00	RES-CHIP	220	5%	1/10W
R101	1-216-025-11	RES-CHIP	100	5%	1/10W
R102	1-216-025-11	RES-CHIP	100	5%	1/10W
R105	1-216-295-91	SHORT CHIP	0		
R109	1-216-041-00	RES-CHIP	470	5%	1/10W
R110	1-216-043-91	RES-CHIP	560	5%	1/10W
R111	1-216-025-11	RES-CHIP	100	5%	1/10W
R112	1-216-025-11	RES-CHIP	100	5%	1/10W
R123	1-216-025-11	RES-CHIP	100	5%	1/10W
R124	1-216-025-11	RES-CHIP	100	5%	1/10W
R301	1-216-113-00	RES-CHIP	470K	5%	1/10W
R302	1-216-089-91	RES-CHIP	47K	5%	1/10W
R303	1-216-089-91	RES-CHIP	47K	5%	1/10W
R304	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1200	1-216-060-00	RES-CHIP	3K	5%	1/10W
R1201	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R1202	1-216-060-00	RES-CHIP	3K	5%	1/10W
R1203	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1204	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1205	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1206	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1207	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R1217	1-216-077-91	RES-CHIP	15K	5%	1/10W
R1218	1-216-077-91	RES-CHIP	15K	5%	1/10W
R1219	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1220	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1221	1-216-079-00	RES-CHIP	18K	5%	1/10W
R1222	1-216-079-00	RES-CHIP	18K	5%	1/10W
R1223	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1224	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1225	1-216-071-00	RES-CHIP	8.2K	5%	1/10W
R1227	1-216-071-00	RES-CHIP	8.2K	5%	1/10W
R1228	1-249-405-11	CARBON	100	5%	1/4W
R1229	1-249-405-11	CARBON	100	5%	1/4W
R1230	1-249-405-11	CARBON	100	5%	1/4W
R1231	1-216-295-91	SHORT CHIP	0		
R1232	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1233	1-216-093-91	RES-CHIP	68K	5%	1/10W
R1234	1-216-097-11	RES-CHIP	100K	5%	1/10W
R1235	1-216-093-91	RES-CHIP	68K	5%	1/10W
R1236	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1237	1-216-097-11	RES-CHIP	100K	5%	1/10W
R1238	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1239	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1240	1-216-041-00	RES-CHIP	470	5%	1/10W
R1241	1-216-295-91	SHORT CHIP	0		
R1242	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1243	1-216-097-11	RES-CHIP	100K	5%	1/10W
R1244	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1245	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1246	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R1247	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1248	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R1249	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1250	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R1251	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1252	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1253	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1254	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1256	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1257	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1258	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1259	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1260	1-216-041-00	RES-CHIP	470	5%	1/10W
R1262	1-249-389-11	CARBON	4.7	5%	1/4W
R1263	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1265	1-249-397-11	CARBON	22	5%	1/4W
R1268	1-249-397-11	CARBON	22	5%	1/4W
R1269	1-216-025-11	RES-CHIP	100	5%	1/10W
R1270	1-216-025-11	RES-CHIP	100	5%	1/10W
R1271	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1272	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1273	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1274	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1275	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1276	1-216-073-91	RES-CHIP	10K	5%	1/10W
R2200	1-216-021-00	RES-CHIP	68	5%	1/10W
R2201	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R2202	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R2203	1-216-021-00	RES-CHIP	68	5%	1/10W

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REF NO.	PART NO.	DESCRIPTION		REMARK	
R2204	1-216-073-91	RES-CHIP	10K	5%	1/10W
R2205	1-216-097-11	RES-CHIP	100K	5%	1/10W
R2206	1-216-117-00	RES-CHIP	680K	5%	1/10W
R2207	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R2208	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R2209	1-216-117-00	RES-CHIP	680K	5%	1/10W
R2210	1-216-089-91	RES-CHIP	47K	5%	1/10W
R2211	1-216-097-11	RES-CHIP	100K	5%	1/10W
R2212	1-216-073-91	RES-CHIP	10K	5%	1/10W
R2213	1-216-089-91	RES-CHIP	47K	5%	1/10W
R2214	1-216-089-91	RES-CHIP	47K	5%	1/10W
R2215	1-216-089-91	RES-CHIP	47K	5%	1/10W
R2602	1-215-882-00	METAL OXIDE	22	5%	2W
R2603	1-215-882-00	METAL OXIDE	22	5%	2W
R3001	1-216-017-91	RES-CHIP	47	5%	1/10W
R3002	1-216-017-91	RES-CHIP	47	5%	1/10W
R3003	1-216-017-91	RES-CHIP	47	5%	1/10W
R3004	1-216-017-91	RES-CHIP	47	5%	1/10W
R3005	1-216-017-91	RES-CHIP	47	5%	1/10W
R3006	1-216-025-11	RES-CHIP	100	5%	1/10W
R3007	1-216-089-91	RES-CHIP	47K	5%	1/10W
R3008	1-216-025-11	RES-CHIP	100	5%	1/10W
R3009	1-216-097-11	RES-CHIP	100K	5%	1/10W
R3010	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R3011	1-216-089-91	RES-CHIP	47K	5%	1/10W
R3012	1-216-097-11	RES-CHIP	100K	5%	1/10W
R3013	1-216-295-91	SHORT CHIP	0		
R3014	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3015	1-216-295-91	SHORT CHIP	0		
R3016	1-216-097-11	RES-CHIP	100K	5%	1/10W
R3017	1-216-025-11	RES-CHIP	100	5%	1/10W
R3018	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3019	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3020	1-216-089-91	RES-CHIP	47K	5%	1/10W
R3021	1-216-025-11	RES-CHIP	100	5%	1/10W
R3022	1-216-025-11	RES-CHIP	100	5%	1/10W
R3023	1-216-295-91	SHORT CHIP	0		
R3024	1-216-295-91	SHORT CHIP	0		
R3027	1-216-129-00	RES-CHIP	2.2M	5%	1/10W
R3031	1-216-025-11	RES-CHIP	100	5%	1/10W
R3033	1-216-041-00	RES-CHIP	470	5%	1/10W
R3034	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3035	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3036	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3044	1-216-041-00	RES-CHIP	470	5%	1/10W
R3047	1-216-017-91	RES-CHIP	47	5%	1/10W
R3048	1-216-017-91	RES-CHIP	47	5%	1/10W
R3053	1-216-041-00	RES-CHIP	470	5%	1/10W
R3076	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3300	1-216-043-91	RES-CHIP	560	5%	1/10W
		(KV-DR29M39/M69/M89)			
R3304	1-216-041-00	RES-CHIP	470	5%	1/10W
		(KV-DR29M39/M69/M89)			
R3320	1-216-073-91	RES-CHIP	10K	5%	1/10W
		(KV-DR29M39/M69/M89)			
R3323	1-216-025-11	RES-CHIP	100	5%	1/10W
		(KV-DR29M39/M69/M89)			
R3334	1-216-025-11	RES-CHIP	100	5%	1/10W
		(KV-DR29M39/M69/M89)			
R3362	1-216-025-11	RES-CHIP	100	5%	1/10W
		(KV-DR29M39/M69/M89)			

REF NO.	PART NO.	DESCRIPTION		REMARK	
R3374	1-216-295-91	SHORT CHIP	0 (KV-DR29M39/M69/M89)		
R4301	1-216-025-11	RES-CHIP	100	5%	1/10W
R4302	1-216-025-11	RES-CHIP	100	5%	1/10W
R4303	1-216-133-91	RES-CHIP	3.3M	5%	1/10W
R4304	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R4305	1-216-025-11	RES-CHIP	100	5%	1/10W
R4306	1-216-025-11	RES-CHIP	100	5%	1/10W
R4307	1-216-025-11	RES-CHIP	100	5%	1/10W
R4308	1-216-025-11	RES-CHIP	100	5%	1/10W
R4309	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R4310	1-216-077-91	RES-CHIP	15K	5%	1/10W
R4311	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4314	1-216-113-00	RES-CHIP	470K	5%	1/10W
R4315	1-216-025-11	RES-CHIP	100	5%	1/10W
R4316	1-216-097-11	RES-CHIP	100K	5%	1/10W
R4317	1-216-025-11	RES-CHIP	100	5%	1/10W
R4318	1-216-121-11	RES-CHIP	1M	5%	1/10W
R4319	1-216-113-00	RES-CHIP	470K	5%	1/10W
R4320	1-216-025-11	RES-CHIP	100	5%	1/10W
R4321	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R4322	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R4323	1-216-085-91	RES-CHIP	33K	5%	1/10W
R4324	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4325	1-216-025-11	RES-CHIP	100	5%	1/10W
R4326	1-216-025-11	RES-CHIP	100	5%	1/10W
R4327	1-216-025-11	RES-CHIP	100	5%	1/10W
R4328	1-216-025-11	RES-CHIP	100	5%	1/10W
R4329	1-216-025-11	RES-CHIP	100	5%	1/10W
R4330	1-216-025-11	RES-CHIP	100	5%	1/10W
R4332	1-216-295-91	SHORT CHIP	0		
R4339	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R4343	1-218-760-11	METAL CHIP	220K	0.5%	1/10W
R4344	1-216-129-00	RES-CHIP	2.2M	5%	1/10W
R4345	1-208-796-11	METAL CHIP	3.9K	0.5%	1/10W
R4346	1-216-097-11	RES-CHIP	100K	5%	1/10W
R4347	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R4349	1-216-081-00	RES-CHIP	22K	5%	1/10W
R4350	1-216-295-91	SHORT CHIP	0		
R4351	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R4352	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R4353	1-208-804-11	METAL CHIP	8.2K	0.5%	1/10W
R4354	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R4355	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R4356	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R4357	1-216-045-00	RES-CHIP	680	5%	1/10W
R4359	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R4361	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R4362	1-216-025-11	RES-CHIP	100	5%	1/10W
R4363	1-216-295-91	SHORT CHIP	0		
R4365	1-216-085-91	RES-CHIP	33K	5%	1/10W
R4375	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4376	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R4379	1-216-025-11	RES-CHIP	100	5%	1/10W
R4380	1-216-025-11	RES-CHIP	100	5%	1/10W
R4381	1-208-774-11	METAL CHIP	470	0.5%	1/10W
R4382	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4383	1-216-025-11	RES-CHIP	100	5%	1/10W
R4384	1-216-017-91	RES-CHIP	47	5%	1/10W
R4385	1-216-017-91	RES-CHIP	47	5%	1/10W
R4386	1-216-017-91	RES-CHIP	47	5%	1/10W

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REF NO.	PART NO.	DESCRIPTION		REMARK	
R4387	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4388	1-216-295-91	SHORT CHIP	0		
R4391	1-216-017-91	RES-CHIP	47	5%	1/10W
R4392	1-216-017-91	RES-CHIP	47	5%	1/10W
R4393	1-216-017-91	RES-CHIP	47	5%	1/10W
R4394	1-216-025-11	RES-CHIP	100	5%	1/10W
R4395	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R4396	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R4397	1-216-033-00	RES-CHIP	220	5%	1/10W
R4398	1-216-033-00	RES-CHIP	220	5%	1/10W
R4399	1-216-033-00	RES-CHIP	220	5%	1/10W
R4400	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R4401	1-208-789-11	METAL CHIP	2K	0.5%	1/10W
R4402	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R4403	1-216-025-11	RES-CHIP	100	5%	1/10W
R4404	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4405	1-216-025-11	RES-CHIP	100	5%	1/10W
R4410	1-216-295-91	SHORT CHIP	0		
R4418	1-216-295-91	SHORT CHIP	0		
R4419	1-216-295-91	SHORT CHIP	0		
R4420	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R4421	1-216-025-11	RES-CHIP	100	5%	1/10W
R4425	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4426	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R4429	1-216-295-91	SHORT CHIP	0		
R4431	1-216-295-91	SHORT CHIP	0		
R4433	1-216-295-91	SHORT CHIP	0		
R4442	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R4443	1-216-081-00	RES-CHIP	22K	5%	1/10W
R4444	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4445	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4450	1-216-025-11	RES-CHIP	100	5%	1/10W
R4452	1-216-025-11	RES-CHIP	100	5%	1/10W
R4453	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R4454	1-216-295-91	SHORT CHIP	0		
R4472	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R4473	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R4481	1-216-133-91	RES-CHIP	3.3M	5%	1/10W
R4482	1-164-161-11	CERAMIC CHIP	0.0022UF	10.00%	50V
R4483	1-216-093-91	RES-CHIP	68K	5%	1/10W
R4484	1-208-846-11	METAL CHIP	470K	0.5%	1/10W
R4487	1-216-081-00	RES-CHIP	22K	5%	1/10W
R4488	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R4489	1-216-113-00	RES-CHIP	470K	5%	1/10W
R4490	1-208-828-11	METAL CHIP	82K	0.5%	1/10W
R4491	1-208-808-11	METAL CHIP	12K	0.5%	1/10W
R4492	1-216-115-00	RES-CHIP	560K	5%	1/10W
R8301	1-216-041-00	RES-CHIP	470	5%	1/10W
R8302	1-216-041-00	RES-CHIP	470	5%	1/10W
R8303	1-216-022-00	RES-CHIP	75	5%	1/10W
R8304	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R8305	1-216-113-00	RES-CHIP	470K	5%	1/10W
R8306	1-216-022-00	RES-CHIP	75	5%	1/10W
R8307	1-216-022-00	RES-CHIP	75	5%	1/10W
R8308	1-216-105-91	RES-CHIP	220K	5%	1/10W
R8309	1-216-105-91	RES-CHIP	220K	5%	1/10W
R8310	1-216-022-00	RES-CHIP	75	5%	1/10W
R8311	1-216-105-91	RES-CHIP	220K	5%	1/10W
R8312	1-216-105-91	RES-CHIP	220K	5%	1/10W
R8313	1-216-022-00	RES-CHIP	75	5%	1/10W
R8314	1-216-105-91	RES-CHIP	220K	5%	1/10W
R8315	1-216-105-91	RES-CHIP	220K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R8316	1-216-113-00	RES-CHIP	470K	5%	1/10W
R8317	1-216-067-00	RES-CHIP (KV-DR29M39/M69/M89)	5.6K	5%	1/10W
R8318	1-216-067-00	RES-CHIP (KV-DR29M39/M69/M89)	5.6K	5%	1/10W
R8319	1-216-041-00	RES-CHIP (KV-DR29M39/M69/M89)	470	5%	1/10W
R8320	1-216-037-00	RES-CHIP (KV-DR29M39/M69/M89)	330	5%	1/10W
R8322	1-216-022-00	RES-CHIP	75	5%	1/10W
R8323	1-216-295-91	SHORT CHIP	0		
R8324	1-216-295-91	SHORT CHIP	0		
R8325	1-216-295-91	SHORT CHIP	0		
R8326	1-216-113-00	RES-CHIP	470K	5%	1/10W
R8327	1-216-295-91	SHORT CHIP	0		
R8328	1-216-113-00	RES-CHIP	470K	5%	1/10W
R8329	1-216-113-00	RES-CHIP	470K	5%	1/10W
R8330	1-216-022-00	RES-CHIP	75	5%	1/10W
R8334	1-216-295-91	SHORT CHIP	0		
R8336	1-216-295-91	SHORT CHIP	0		
R8337	1-216-022-00	RES-CHIP	75	5%	1/10W
R8338	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R8339	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R8340	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R8341	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R8342	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R8343	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R8344	1-216-022-00	RES-CHIP	75	5%	1/10W
R8345	1-216-033-00	RES-CHIP	220	5%	1/10W
R8346	1-216-031-00	RES-CHIP	180	5%	1/10W
R8347	1-216-025-11	RES-CHIP	100	5%	1/10W
R8348	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R8349	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8350	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8351	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R8352	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R8353	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R8354	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R8357	1-216-017-91	RES-CHIP	47	5%	1/10W
R8358	1-216-017-91	RES-CHIP	47	5%	1/10W
R8361	1-216-017-91	RES-CHIP	47	5%	1/10W
R8362	1-216-037-00	RES-CHIP (KV-DR29M39/M69/M89)	330	5%	1/10W
R8363	1-216-642-11	METAL CHIP	430	0.5%	1/10W
R8364	1-216-041-00	RES-CHIP	470	5%	1/10W
R8365	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R8366	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R8367	1-216-041-00	RES-CHIP	470	5%	1/10W
R8368	1-216-037-00	RES-CHIP (KV-DR29M39/M69/M89)	330	5%	1/10W
R8369	1-216-041-00	RES-CHIP	470	5%	1/10W
R8370	1-216-025-11	RES-CHIP	100	5%	1/10W
R8372	1-216-295-91	SHORT CHIP	0		
R8373	1-216-295-91	SHORT CHIP	0		
R8374	1-216-039-00	RES-CHIP	390	5%	1/10W
R8375	1-216-041-00	RES-CHIP	470	5%	1/10W
R8376	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8377	1-216-025-11	RES-CHIP	100	5%	1/10W
R8378	1-216-033-00	RES-CHIP	220	5%	1/10W
R8379	1-216-033-00	RES-CHIP	220	5%	1/10W
R8380	1-216-025-11	RES-CHIP	100	5%	1/10W
R8381	1-216-025-11	RES-CHIP	100	5%	1/10W

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REF NO.	PART NO.	DESCRIPTION		REMARK	
R8382	1-216-033-00	RES-CHIP	220	5%	1/10W
R8383	1-216-033-00	RES-CHIP	220	5%	1/10W
R8384	1-216-025-11	RES-CHIP	100	5%	1/10W
R8388	1-216-033-00	RES-CHIP	220	5%	1/10W
R8390	1-216-037-00	RES-CHIP	330	5%	1/10W
R8391	1-216-041-00	RES-CHIP	470	5%	1/10W
R8395	1-216-033-00	RES-CHIP	220	5%	1/10W
R8396	1-216-033-00	RES-CHIP	220	5%	1/10W
R8399	1-216-025-11	RES-CHIP	100	5%	1/10W
R8400	1-216-025-11	RES-CHIP	100	5%	1/10W
R8411	1-216-083-00	RES-CHIP	27K	5%	1/10W
R8414	1-208-796-11	METAL CHIP	3.9K	0.5%	1/10W
R8415	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8417	1-216-025-11	RES-CHIP	100	5%	1/10W
R8418	1-216-025-11	RES-CHIP	100	5%	1/10W
R8419	1-216-017-91	RES-CHIP	47	5%	1/10W
R8420	1-216-017-91	RES-CHIP	47	5%	1/10W
R8435	1-216-295-91	SHORT CHIP	0		
R8441	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8442	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8446	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8447	1-216-025-11	RES-CHIP	100	5%	1/10W
R8448	1-216-025-11	RES-CHIP	100	5%	1/10W
R8449	1-216-025-11	RES-CHIP	100	5%	1/10W
R8450	1-216-089-91	RES-CHIP	47K	5%	1/10W
R8451	1-216-097-11	RES-CHIP	100K	5%	1/10W
R8452	1-216-089-91	RES-CHIP	47K	5%	1/10W
R8453	1-216-097-11	RES-CHIP	100K	5%	1/10W
R8454	1-216-089-91	RES-CHIP	47K	5%	1/10W
R8455	1-216-097-11	RES-CHIP	100K	5%	1/10W
R8464	1-216-025-11	RES-CHIP	100	5%	1/10W
R8465	1-216-025-11	RES-CHIP	100	5%	1/10W
R8466	1-216-025-11	RES-CHIP	100	5%	1/10W
R8467	1-216-041-00	RES-CHIP	470	5%	1/10W
R8468	1-216-041-00	RES-CHIP	470	5%	1/10W
R8469	1-216-041-00	RES-CHIP	470	5%	1/10W
R8470	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R8471	1-216-025-11	RES-CHIP	100	5%	1/10W
R8478	1-216-089-91	RES-CHIP	47K	5%	1/10W
R8479	1-216-097-11	RES-CHIP	100K	5%	1/10W
R8480	1-216-073-91	RES-CHIP	10K	5%	1/10W
R8481	1-216-095-00	RES-CHIP	82K	5%	1/10W
R8482	1-216-089-91	RES-CHIP	47K	5%	1/10W
R8484	1-216-045-00	RES-CHIP	680	5%	1/10W
R8485	1-216-037-00	RES-CHIP	330	5%	1/10W
R8486	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8487	1-216-045-00	RES-CHIP	680	5%	1/10W
R8488	1-216-041-00	RES-CHIP	470	5%	1/10W
R8489	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8490	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8491	1-216-025-11	RES-CHIP	100	5%	1/10W
R8492	1-216-041-00	RES-CHIP	470	5%	1/10W
R8493	1-216-081-00	RES-CHIP	22K	5%	1/10W
R8494	1-216-041-00	RES-CHIP	470	5%	1/10W
R8495	1-216-081-00	RES-CHIP	22K	5%	1/10W
R8496	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8497	1-216-025-11	RES-CHIP	100	5%	1/10W
R8498	1-216-043-91	RES-CHIP	560	5%	1/10W
R8499	1-216-081-00	RES-CHIP	22K	5%	1/10W
R8500	1-216-033-00	RES-CHIP	220	5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R8501	1-216-081-00	RES-CHIP	22K	5%	1/10W
R8502	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8507	1-216-025-11	RES-CHIP	100	5%	1/10W
R8508	1-216-025-11	RES-CHIP	100	5%	1/10W
R8512	1-216-017-91	RES-CHIP	47	5%	1/10W
R8536	1-216-025-11	RES-CHIP	100	5%	1/10W
R8538	1-216-041-00	RES-CHIP	470	5%	1/10W
R8540	1-216-041-00	RES-CHIP	470	5%	1/10W
R8541	1-216-039-00	RES-CHIP	390	5%	1/10W
R8576	1-216-013-00	RES-CHIP	33	5%	1/10W
R8577	1-216-295-91	SHORT CHIP	0		
R8578	1-216-033-00	RES-CHIP	220	5%	1/10W
R8579	1-216-295-91	SHORT CHIP	0		
R8582	1-208-291-11	RES-CHIP	4.7M	5%	1/10W
R8583	1-208-291-11	RES-CHIP	4.7M	5%	1/10W
R8584	1-208-291-11	RES-CHIP	4.7M	5%	1/10W
R8587	1-216-295-91	SHORT CHIP	0		
R8588	1-216-041-00	RES-CHIP	470	5%	1/10W
R8589	1-216-041-00	RES-CHIP	470	5%	1/10W
R8590	1-216-041-00	RES-CHIP	470	5%	1/10W

<TUNER>

TU101	8-598-452-20	TUNER, FSS BTF-WG442 (KV-DR29M39/M69)
TU101	8-598-451-00	TUNER, FSS BTF-WG441 (KV-DR29M63)
TU101	8-598-450-10	TUNER, FSS BTF-LG434 (KV-DR29M89)
TU3301	8-598-450-10	TUNER, FSS BTF-LG434 (KV-DR29M39/M69/M89)

<CRYSTAL>

X001	1-567-928-11	VIBLATOR, CERAMIC
X3001	1-781-922-21	VIBRATOR, CERAMIC
X4301	1-760-895-21	VIBRATOR, CERAMIC
X8301	1-781-612-11	VIBRATOR, CRYSTAL

** *

* A-1300-290-A B3 BOARD COMPLETE (KV-DR29M39/DR29M69/DR29M89)
* A-1300-385-A B3 BOARD COMPLETE (KV-DR29M63)
****

<CAPACITOR>

C501	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C502	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C503	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C505	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C507	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C512	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C539	1-126-204-11	ELECT CHIP	47UF	20.00%	16V
C540	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C543	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C545	1-126-396-11	ELECT CHIP	47UF	20.00%	16V
C546	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C548	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C549	1-126-204-11	ELECT CHIP	47UF	20.00%	16V
C550	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C551	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V

REF NO.	PART NO.	DESCRIPTION			REMARK
C554	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C555	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C556	1-126-396-11	ELECT CHIP	47UF	20.00%	16V
C557	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C559	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C560	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C601	1-126-394-11	ELECT CHIP	10UF	20.00%	16V
C602	1-126-394-11	ELECT CHIP	10UF	20.00%	16V
C603	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C604	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C605	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C606	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C607	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C608	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C609	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C610	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C611	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C612	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C613	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C614	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C615	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C616	1-126-396-11	ELECT CHIP	47UF	20.00%	16V
C617	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C618	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C619	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C620	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C621	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C622	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C623	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C624	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C625	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C626	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C627	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C628	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C629	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C630	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C631	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C632	1-126-206-11	ELECT CHIP	100UF	20.00%	6.3V
C633	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C634	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C635	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C636	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C637	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C638	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C639	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C640	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C642	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C643	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C644	1-126-398-11	ELECT CHIP	4.7UF	20.00%	35V
C645	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C652	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C653	1-126-206-11	ELECT CHIP	100UF	20.00%	6.3V
C801	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C802	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C803	1-126-206-11	ELECT CHIP	100UF	20.00%	6.3V
C804	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C805	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C806	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C807	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C808	1-109-982-11	CERAMIC CHIP	1UF	10.00%	10V
C809	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C810	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C811	1-163-023-00	CERAMIC CHIP	0.015UF	10.00%	50V
C812	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C813	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C814	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C815	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C816	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C817	1-109-982-11	CERAMIC CHIP	1UF	10.00%	10V
C818	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C819	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C820	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C821	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C822	1-109-982-11	CERAMIC CHIP	1UF	10.00%	10V
C823	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C824	1-109-982-11	CERAMIC CHIP	1UF	10.00%	10V
C825	1-126-204-11	ELECT CHIP	47UF	20.00%	16V
C826	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C831	1-126-204-11	ELECT CHIP	47UF	20.00%	16V
C833	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C834	1-126-204-11	ELECT CHIP	47UF	20.00%	16V

<CONNECTOR>

REF NO.	PART NO.	DESCRIPTION
CN502	1-793-497-11	CONNECTOR, BOARD TO BOARD 40P

<DIODE>

REF NO.	PART NO.	DESCRIPTION
D501	8-719-082-02	DIODE MM3Z3V9T1
D601	8-719-081-97	MMDL914T1
D800	8-719-081-97	MMDL914T1

<FERRITE BEAD>

REF NO.	PART NO.	DESCRIPTION	
FB501	1-414-813-11	FERRITE	0UH
FB502	1-414-813-11	FERRITE	0UH
FB503	1-414-813-11	FERRITE	0UH
FB504	1-414-813-11	FERRITE	0UH
FB601	1-414-553-11	FERRITE	0UH

<FILTER>

REF NO.	PART NO.	DESCRIPTION	
FL501	1-233-877-11	FILTER, LOW PASS	
FL502	1-233-504-21	FILTER, LOW PASS	
FL503	1-233-504-21	FILTER, LOW PASS	
FL504	1-234-177-21	FERRITE	0UH
FL505	1-234-177-21	FERRITE	0UH
FL506	1-234-177-21	FERRITE	0UH
FL601	1-234-177-21	FERRITE	0UH
FL602	1-234-177-21	FERRITE	0UH
FL603	1-234-177-21	FERRITE	0UH
FL801	1-234-177-21	FERRITE	0UH
FL901	1-234-113-21	FILTER, LOW PASS	
FL902	1-234-112-21	FILTER, LOW PASS	
FL903	1-234-112-21	FILTER, LOW PASS	

<IC>

REF NO.	PART NO.	DESCRIPTION
IC504	8-759-669-78	TLC2933IPWR-12
IC505	8-759-547-54	TC7SET00FU(TE85
IC506	8-759-547-54	TC7SET00FU(TE85

B3

REF NO.	PART NO.	DESCRIPTION		REMARK	
IC601	8-752-409-78	IC CXD2095AQ			
IC602	8-759-836-37	IC MT48LC1M16A1TG-6S			
IC603	8-759-669-75	TLC2932IPWR			
IC604	8-752-072-94	CXA1875AM-T4			
IC605	8-749-015-18	PQ07VZ012ZP			
IC801	6-700-188-01	IC IS41C16256-35K			
IC802	6-701-892-01	IC TC90A90F(BH,DRY)			
IC803	8-749-015-18	PQ07VZ012ZP			
		<CHIP CONDUCTOR>			
JR601	1-216-295-91	SHORT CHIP	0		
JR801	1-216-295-91	SHORT CHIP	0		
		<COIL>			
L503	1-412-026-11	INDUCTOR	1UH		
L505	1-412-029-11	INDUCTOR	10UH		
L506	1-412-026-11	INDUCTOR	1UH		
L508	1-412-029-11	INDUCTOR	10UH		
L509	1-412-029-11	INDUCTOR	10UH		
L512	1-412-026-11	INDUCTOR	1UH		
L604	1-412-029-11	INDUCTOR	10UH		
L605	1-412-029-11	INDUCTOR	10UH		
L801	1-412-026-11	INDUCTOR	1UH		
L802	1-412-026-11	INDUCTOR	1UH		
L804	1-412-026-11	INDUCTOR	1UH		
L805	1-412-026-11	INDUCTOR	1UH		
L806	1-412-026-11	INDUCTOR	1UH		
L807	1-412-026-11	INDUCTOR	1UH		
		<TRANSISTOR>			
Q501	8-729-010-05	MSB709-RT1			
Q502	8-729-120-28	2SC1623-L5L6			
Q503	8-729-120-28	2SC1623-L5L6			
Q504	8-729-421-19	UN2213			
Q516	8-729-010-25	MSD601-RT1			
Q517	8-729-010-25	MSD601-RT1			
Q518	8-729-010-05	MSB709-RT1			
Q521	8-729-010-25	MSD601-RT1			
Q522	8-729-010-25	MSD601-RT1			
Q523	8-729-010-25	MSD601-RT1			
Q602	8-729-010-25	MSD601-RT1			
Q605	8-729-010-25	MSD601-RT1			
Q606	8-729-010-25	MSD601-RT1			
Q607	8-729-900-53	DTC114EK			
Q901	8-729-010-05	MSB709-RT1			
Q902	8-729-010-05	MSB709-RT1			
Q903	8-729-010-05	MSB709-RT1			
Q907	8-729-010-05	MSB709-RT1			
Q908	8-729-010-05	MSB709-RT1			
Q909	8-729-010-05	MSB709-RT1			
		<RESISTOR>			
R501	1-216-025-11	RES-CHIP	100	5%	1/10W
R502	1-216-025-11	RES-CHIP	100	5%	1/10W
R503	1-216-295-91	SHORT CHIP	0		
R504	1-216-295-91	SHORT CHIP	0		
R505	1-216-295-91	SHORT CHIP	0		

REF NO.	PART NO.	DESCRIPTION		REMARK	
R506	1-216-025-11	RES-CHIP	100	5%	1/10W
R507	1-216-025-11	RES-CHIP	100	5%	1/10W
R513	1-216-639-11	METAL CHIP	330	0.5%	1/10W
R514	1-216-639-11	METAL CHIP	330	0.5%	1/10W
R515	1-216-639-11	METAL CHIP	330	0.5%	1/10W
R517	1-216-049-11	RES-CHIP	1K	5%	1/10W
R518	1-216-295-91	SHORT CHIP	0		
R520	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R521	1-216-295-91	SHORT CHIP	0		
R523	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R524	1-216-295-91	SHORT CHIP	0		
R526	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R528	1-216-037-00	RES-CHIP	330	5%	1/10W
R529	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R530	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R531	1-216-031-00	RES-CHIP	180	5%	1/10W
R532	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R533	1-216-031-00	RES-CHIP	180	5%	1/10W
R537	1-216-643-11	METAL CHIP	470	0.5%	1/10W
R538	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R539	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R561	1-216-043-91	RES-CHIP	560	5%	1/10W
R562	1-216-043-91	RES-CHIP	560	5%	1/10W
R563	1-216-043-91	RES-CHIP	560	5%	1/10W
R564	1-216-049-11	RES-CHIP	1K	5%	1/10W
R598	1-216-025-11	RES-CHIP	100	5%	1/10W
R600	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R604	1-216-033-00	RES-CHIP	220	5%	1/10W
R605	1-216-295-91	SHORT CHIP	0		
R608	1-216-295-91	SHORT CHIP	0		
R609	1-216-073-91	RES-CHIP	10K	5%	1/10W
R610	1-216-033-00	RES-CHIP	220	5%	1/10W
R611	1-216-073-91	RES-CHIP	10K	5%	1/10W
R612	1-216-073-91	RES-CHIP	10K	5%	1/10W
R613	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R614	1-216-295-91	SHORT CHIP	0		
R615	1-216-089-91	RES-CHIP	47K	5%	1/10W
R616	1-216-073-91	RES-CHIP	10K	5%	1/10W
R617	1-216-295-91	SHORT CHIP	0		
R619	1-216-073-91	RES-CHIP	10K	5%	1/10W
R622	1-216-295-91	SHORT CHIP	0		
R623	1-216-295-91	SHORT CHIP	0		
R624	1-216-295-91	SHORT CHIP	0		
R626	1-216-073-91	RES-CHIP	10K	5%	1/10W
R628	1-216-295-91	SHORT CHIP	0		
R629	1-216-073-91	RES-CHIP	10K	5%	1/10W
R631	1-216-295-91	SHORT CHIP	0		
R634	1-216-295-91	SHORT CHIP	0		
R635	1-216-295-91	SHORT CHIP	0		
R638	1-216-295-91	SHORT CHIP	0		
R639	1-216-017-91	RES-CHIP	47	5%	1/10W
R640	1-216-009-91	RES-CHIP	22	5%	1/10W
R642	1-216-295-91	SHORT CHIP	0		
R643	1-216-295-91	SHORT CHIP	0		
R645	1-216-295-91	SHORT CHIP	0		
R647	1-216-295-91	SHORT CHIP	0		
R648	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
R650	1-211-960-11	METAL CHIP	22	0.5%	1/10W
R651	1-216-295-91	SHORT CHIP	0		
R653	1-216-025-11	RES-CHIP	100	5%	1/10W

B3

REF NO.	PART NO.	DESCRIPTION		REMARK	
R654	1-216-033-00	RES-CHIP	220	5%	1/10W
R655	1-216-295-91	SHORT CHIP	0		
R657	1-216-009-91	RES-CHIP	22	5%	1/10W
R658	1-216-295-91	SHORT CHIP	0		
R660	1-208-774-11	METAL CHIP	470	0.5%	1/10W
R664	1-216-295-91	SHORT CHIP	0		
R665	1-216-035-00	RES-CHIP	270	5%	1/10W
R666	1-216-646-11	METAL CHIP	620	0.5%	1/10W
R667	1-208-794-11	METAL CHIP	3.3K	0.5%	1/10W
R668	1-216-017-91	RES-CHIP	47	5%	1/10W
R671	1-216-073-91	RES-CHIP	10K	5%	1/10W
R672	1-216-073-91	RES-CHIP	10K	5%	1/10W
R673	1-216-073-91	RES-CHIP	10K	5%	1/10W
R674	1-216-073-91	RES-CHIP	10K	5%	1/10W
R675	1-216-073-91	RES-CHIP	10K	5%	1/10W
R676	1-216-073-91	RES-CHIP	10K	5%	1/10W
R677	1-216-073-91	RES-CHIP	10K	5%	1/10W
R678	1-216-073-91	RES-CHIP	10K	5%	1/10W
R679	1-216-073-91	RES-CHIP	10K	5%	1/10W
R680	1-216-073-91	RES-CHIP	10K	5%	1/10W
R681	1-216-073-91	RES-CHIP	10K	5%	1/10W
R682	1-216-073-91	RES-CHIP	10K	5%	1/10W
R683	1-216-073-91	RES-CHIP	10K	5%	1/10W
R684	1-216-073-91	RES-CHIP	10K	5%	1/10W
R685	1-216-073-91	RES-CHIP	10K	5%	1/10W
R686	1-216-073-91	RES-CHIP	10K	5%	1/10W
R690	1-216-295-91	SHORT CHIP	0		
R691	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R692	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R693	1-216-009-91	RES-CHIP	22	5%	1/10W
R694	1-216-295-91	SHORT CHIP	0		
R695	1-216-047-91	RES-CHIP	820	5%	1/10W
R696	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R697	1-216-117-00	RES-CHIP	680K	5%	1/10W
R698	1-216-117-00	RES-CHIP	680K	5%	1/10W
R699	1-216-295-91	SHORT CHIP	0		
R701	1-216-295-91	SHORT CHIP	0		
R702	1-216-295-91	SHORT CHIP	0		
R708	1-216-295-91	SHORT CHIP	0		
R709	1-216-295-91	SHORT CHIP	0		
R710	1-216-295-91	SHORT CHIP	0		
R711	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R712	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R713	1-216-295-91	SHORT CHIP	0		
R714	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R715	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R716	1-216-295-91	SHORT CHIP	0		
R717	1-216-073-91	RES-CHIP	10K	5%	1/10W
R718	1-216-073-91	RES-CHIP	10K	5%	1/10W
R801	1-216-025-11	RES-CHIP	100	5%	1/10W
R802	1-216-025-11	RES-CHIP	100	5%	1/10W
R804	1-216-025-11	RES-CHIP	100	5%	1/10W
R806	1-216-025-11	RES-CHIP	100	5%	1/10W
R807	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R808	1-216-295-91	SHORT CHIP	0		
R810	1-216-295-91	SHORT CHIP	0		
R812	1-216-125-00	RES-CHIP	1.5M	5%	1/10W
R813	1-216-295-91	SHORT CHIP	0		
R814	1-216-025-11	RES-CHIP	100	5%	1/10W
R815	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R817	1-208-788-11	METAL CHIP	1.8K	0.5%	1/10W
R818	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
R820	1-216-295-91	SHORT CHIP	0		
R822	1-216-025-11	RES-CHIP	100	5%	1/10W
R825	1-216-295-91	SHORT CHIP	0		
R830	1-216-049-11	RES-CHIP	1K	5%	1/10W
R832	1-216-295-91	SHORT CHIP	0		
R834	1-216-025-11	RES-CHIP	100	5%	1/10W
R907	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R908	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R909	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R910	1-216-049-11	RES-CHIP	1K	5%	1/10W
R911	1-216-049-11	RES-CHIP	1K	5%	1/10W
R912	1-216-049-11	RES-CHIP	1K	5%	1/10W
R942	1-216-037-00	RES-CHIP	330	5%	1/10W
R943	1-216-033-00	RES-CHIP	220	5%	1/10W
R957	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R958	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R959	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R960	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R961	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R962	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R981	1-216-037-00	RES-CHIP	330	5%	1/10W
R982	1-216-037-00	RES-CHIP	330	5%	1/10W
R983	1-216-089-91	RES-CHIP	47K	5%	1/10W
R984	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R985	1-216-113-00	RES-CHIP	470K	5%	1/10W
R986	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R987	1-216-049-11	RES-CHIP	1K	5%	1/10W
R988	1-216-033-00	RES-CHIP	220	5%	1/10W
R989	1-216-081-00	RES-CHIP	22K	5%	1/10W
R990	1-216-113-00	RES-CHIP	470K	5%	1/10W
R991	1-216-295-91	SHORT CHIP	0		
R993	1-216-089-91	RES-CHIP	47K	5%	1/10W
RB019	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB020	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB021	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB022	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB023	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB024	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB025	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB026	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB027	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB801	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB802	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB803	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB804	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB805	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB806	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB807	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB808	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB809	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB810	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB811	1-239-409-11	NETWORK RESISTOR (CHIP) 47			

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BC1

REF NO.	PART NO.	DESCRIPTION			REMARK
	* A-1300-298-A	BC1 BOARD COMPLETE (KV-DR29M39/DR29M69/DR29M89)			
	* A-1300-388-A	BC1 BOARD COMPLETE (KV-DR29M63)			
		***********************************			
		<CAPACITOR>			
C2001	1-126-947-11	ELECT	47UF	20.00%	16V
C2002	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C2003	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2004	1-107-698-11	ELECT	10UF	20.00%	25V
C2005	1-163-131-00	CERAMIC CHIP	390PF	5.00%	50V
C2006	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2007	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2008	1-104-665-11	ELECT	100UF	20.00%	10V
C2009	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2010	1-163-102-00	CERAMIC CHIP	24PF	5.00%	50V
C2011	1-163-102-00	CERAMIC CHIP	24PF	5.00%	50V
C2012	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2013	1-126-947-11	ELECT	47UF	20.00%	16V
C2014	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2016	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2018	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2019	1-126-947-11	ELECT	47UF	20.00%	16V
C2021	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2022	1-126-947-11	ELECT	47UF	20.00%	16V
C2023	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2024	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2025	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2026	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2027	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2028	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2029	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2030	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2032	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2033	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2034	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2035	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2036	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2037	1-126-947-11	ELECT	47UF	20.00%	16V
C2038	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2039	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2040	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2041	1-126-947-11	ELECT	47UF	20.00%	16V
C2044	1-104-665-11	ELECT	100UF	20.00%	10V
C2045	1-163-106-00	CERAMIC CHIP	36PF	5.00%	50V
C2046	1-126-964-11	ELECT	10UF	20.00%	50V
C2047	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C2048	1-126-964-11	ELECT	10UF	20.00%	50V
C2049	1-126-960-11	ELECT	1UF	20.00%	50V
C2050	1-163-231-11	CERAMIC CHIP	15PF	5.00%	50V
C2051	1-126-964-11	ELECT	10UF	20.00%	50V
C2052	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C2053	1-109-889-11	ELECT	1UF	20.00%	50V
C2054	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2055	1-126-947-11	ELECT	47UF	20.00%	16V
C2056	1-163-231-11	CERAMIC CHIP	15PF	5.00%	50V
C2058	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2063	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2064	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2066	1-126-947-11	ELECT	47UF	20.00%	16V
C2072	1-163-237-11	CERAMIC CHIP	27PF	5.00%	50V
C2074	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2075	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2078	1-126-947-11	ELECT	47UF	20.00%	16V
C2079	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2081	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2096	1-163-231-11	CERAMIC CHIP	15PF	5.00%	50V
C2097	1-163-231-11	CERAMIC CHIP	15PF	5.00%	50V
C2100	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C2101	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2103	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2104	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2105	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C2300	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2301	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2302	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2303	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2304	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2305	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2306	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C2307	1-126-933-11	ELECT	100UF	20.00%	16V
C2308	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C2309	1-126-947-11	ELECT	47UF	20.00%	16V
C2310	1-126-947-11	ELECT	47UF	20.00%	16V
C2312	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2313	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2314	1-163-007-11	CERAMIC CHIP	680PF	10.00%	50V
C2315	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C2316	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C2317	1-126-933-11	ELECT	100UF	20.00%	16V
C2318	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2319	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C2320	1-163-229-11	CERAMIC CHIP	12PF	5.00%	50V
C2321	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2322	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C2323	1-163-229-11	CERAMIC CHIP	12PF	5.00%	50V
C2324	1-126-947-11	ELECT	47UF	20.00%	16V
C2326	1-126-947-11	ELECT	47UF	20.00%	16V
C2327	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C2330	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2331	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
		<CONNECTOR>			
CN2001	1-793-496-11	CONNECTOR, BOARD TO BOARD 20P			
		<FERRITE BEAD>			
FB2001	1-414-234-22	FERRITE	0UH		
FB2002	1-414-234-22	FERRITE	0UH		
FB2008	1-414-234-22	FERRITE	0UH		
FB2010	1-414-234-22	FERRITE	0UH		
FB2011	1-414-234-22	FERRITE	0UH		
FB2012	1-414-234-22	FERRITE	0UH		
FB2014	1-414-234-22	FERRITE	0UH		
FB2015	1-414-234-22	FERRITE	0UH		
FB2016	1-216-295-91	SHORT CHIP	0		
FB2017	1-216-295-91	SHORT CHIP	0		
		<FILTER>			
FL2000	1-236-071-11	ENCAPSULATED COMPONENT			
FL2001	1-239-848-11	FILTER, LOW PASS			

BC1

REF NO.	PART NO.	DESCRIPTION			REMARK
FL2002	1-239-848-11	FILTER, LOW PASS			
FL2003	1-239-848-11	FILTER, LOW PASS			
FL2004	1-239-848-11	FILTER, LOW PASS			
		<IC>			
IC2001	6-700-394-01	IC BA25BC0FP-E2			
IC2004	6-700-960-01	IC UPD64083GF-3BA			
IC2005	8-759-460-72	BA033FP-E2			
IC2300	6-701-972-01	IC TC90A69F			
		<COIL>			
L2001	1-410-200-31	INDUCTOR	4.7UH		
L2002	1-412-058-11	INDUCTOR	10UH		
L2003	1-412-058-11	INDUCTOR	10UH		
L2005	1-412-058-11	INDUCTOR	10UH		
L2006	1-412-058-11	INDUCTOR	10UH		
L2007	1-412-058-11	INDUCTOR	10UH		
L2008	1-412-058-11	INDUCTOR	10UH		
L2300	1-412-058-11	INDUCTOR	10UH		
L2301	1-412-031-11	INDUCTOR	47UH		
L2302	1-412-031-11	INDUCTOR	47UH		
L2303	1-412-031-11	INDUCTOR	47UH		
L2304	1-410-514-11	INDUCTOR	27UH		
L2305	1-410-514-11	INDUCTOR	27UH		
L2306	1-412-058-11	INDUCTOR	10UH		
L2307	1-412-026-11	INDUCTOR	1UH		
		<TRANSISTOR>			
Q2002	8-729-026-49	2SA1037AK-T146-R			
Q2003	8-729-026-49	2SA1037AK-T146-R			
Q2004	8-729-026-49	2SA1037AK-T146-R			
Q2005	8-729-010-25	MSD601-RT1			
Q2006	8-729-010-25	MSD601-RT1			
Q2007	8-729-010-25	MSD601-RT1			
Q2008	8-729-010-25	MSD601-RT1			
Q2009	8-729-010-25	MSD601-RT1			
Q2010	8-729-010-25	MSD601-RT1			
Q2011	8-729-010-25	MSD601-RT1			
Q2012	8-729-026-49	2SA1037AK-T146-R			
Q2013	8-729-026-49	2SA1037AK-T146-R			
Q2014	8-729-010-25	MSD601-RT1			
Q2015	8-729-010-25	MSD601-RT1			
Q2016	8-729-010-25	MSD601-RT1			
Q2018	8-729-026-49	2SA1037AK-T146-R			
Q2019	8-729-010-25	MSD601-RT1			
Q2301	8-729-026-49	2SA1037AK-T146-R			
Q2302	8-729-010-25	MSD601-RT1			
Q2303	8-729-010-25	MSD601-RT1			
Q2304	8-729-026-49	2SA1037AK-T146-R			
Q2305	8-729-010-25	MSD601-RT1			
Q2306	8-729-010-25	MSD601-RT1			
Q2307	8-729-010-25	MSD601-RT1			
Q2308	8-729-026-49	2SA1037AK-T146-R			
Q2309	8-729-010-25	MSD601-RT1			
		<RESISTOR>			
R2001	1-216-073-91	RES-CHIP	10K	5%	1/10W
R2002	1-216-295-91	SHORT CHIP	0		

REF NO.	PART NO.	DESCRIPTION			REMARK
R2004	1-216-295-91	SHORT CHIP	0		
R2005	1-216-295-91	SHORT CHIP	0		
R2011	1-216-041-00	RES-CHIP	470	5%	1/10W
R2012	1-216-073-91	RES-CHIP	10K	5%	1/10W
R2015	1-216-041-00	RES-CHIP	470	5%	1/10W
R2021	1-216-025-11	RES-CHIP	100	5%	1/10W
R2027	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2028	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2029	1-216-043-91	RES-CHIP	560	5%	1/10W
R2030	1-216-043-91	RES-CHIP	560	5%	1/10W
R2031	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R2032	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R2033	1-216-037-00	RES-CHIP	330	5%	1/10W
R2034	1-216-037-00	RES-CHIP	330	5%	1/10W
R2035	1-216-043-91	RES-CHIP	560	5%	1/10W
R2036	1-216-644-11	METAL CHIP	510	0.5%	1/10W
R2037	1-216-045-00	RES-CHIP	680	5%	1/10W
R2039	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R2040	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R2041	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R2042	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R2043	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R2044	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R2046	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R2047	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R2048	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2049	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R2050	1-216-017-91	RES-CHIP	47	5%	1/10W
R2051	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2052	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2053	1-216-041-00	RES-CHIP	470	5%	1/10W
R2054	1-216-041-00	RES-CHIP	470	5%	1/10W
R2055	1-216-017-91	RES-CHIP	47	5%	1/10W
R2056	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R2057	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2058	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R2059	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2060	1-216-025-11	RES-CHIP	100	5%	1/10W
R2061	1-216-043-91	RES-CHIP	560	5%	1/10W
R2062	1-216-105-91	RES-CHIP	220K	5%	1/10W
R2063	1-216-089-91	RES-CHIP	47K	5%	1/10W
R2064	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2066	1-216-033-00	RES-CHIP	220	5%	1/10W
R2067	1-216-043-91	RES-CHIP	560	5%	1/10W
R2069	1-216-639-11	METAL CHIP	330	0.5%	1/10W
R2070	1-216-641-11	METAL CHIP	390	0.5%	1/10W
R2071	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R2072	1-216-043-91	RES-CHIP	560	5%	1/10W
R2073	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2074	1-216-025-11	RES-CHIP	100	5%	1/10W
R2076	1-216-025-11	RES-CHIP	100	5%	1/10W
R2077	1-216-025-11	RES-CHIP	100	5%	1/10W
R2108	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2115	1-216-041-00	RES-CHIP	470	5%	1/10W
R2301	1-216-041-00	RES-CHIP	470	5%	1/10W
R2306	1-216-039-00	RES-CHIP	390	5%	1/10W
R2307	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2308	1-216-047-91	RES-CHIP	820	5%	1/10W
R2309	1-216-051-00	RES-CHIP	1.2K	5%	1/10W
R2310	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R2311	1-216-075-00	RES-CHIP	12K	5%	1/10W

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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REF NO.	PART NO.	DESCRIPTION		REMARK	
R2312	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2313	1-216-295-91	SHORT CHIP	0		
R2314	1-216-039-00	RES-CHIP	390	5%	1/10W
R2315	1-216-041-00	RES-CHIP	470	5%	1/10W
R2317	1-216-025-11	RES-CHIP	100	5%	1/10W
R2318	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2319	1-216-047-91	RES-CHIP	820	5%	1/10W
R2320	1-216-051-00	RES-CHIP	1.2K	5%	1/10W
R2321	1-216-075-00	RES-CHIP	12K	5%	1/10W
R2322	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R2323	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2324	1-216-041-00	RES-CHIP	470	5%	1/10W
R2325	1-216-041-00	RES-CHIP	470	5%	1/10W
R2326	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2327	1-216-017-91	RES-CHIP	47	5%	1/10W
R2328	1-216-017-91	RES-CHIP	47	5%	1/10W
R2330	1-216-037-00	RES-CHIP	330	5%	1/10W
R2331	1-216-295-91	SHORT CHIP	0		
R2333	1-216-025-11	RES-CHIP	100	5%	1/10W
R2334	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2335	1-414-234-22	FERRITE	0UH		

<VARIABLE RESISTOR>

REF NO.	PART NO.	DESCRIPTION
RV2001	1-223-271-21	RES, ADJ, CERMET 220

<CRYSTAL>

REF NO.	PART NO.	DESCRIPTION
X2001	1-767-606-11	VIBRATOR, CRYSTAL

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REF NO.	PART NO.	DESCRIPTION
	* A-1400-488-A	C BOARD MOUNTED (KV-DR29M39/DR29M69/DR29M89)
	* A-1400-690-A	C BOARD MOUNTED (KV-DR29M63)

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REF NO.	PART NO.	DESCRIPTION
	4-382-854-01	SCREW (M3X8), P, SW (+)

<CAPACITOR>

REF NO.	PART NO.	DESCRIPTION		REMARK	
C9002	1-163-087-00	CERAMIC CHIP	4PF	0.25PF	50V
C9003	1-163-087-00	CERAMIC CHIP	4PF	0.25PF	50V
C9004	1-104-574-11	CERAMIC	0.0047UF	10.00%	2KV
C9005	1-163-087-00	CERAMIC CHIP	4PF	0.25PF	50V
C9006	1-163-091-00	CERAMIC CHIP	8PF	0.25PF	50V
C9007	1-163-091-00	CERAMIC CHIP	8PF	0.25PF	50V
C9008	1-163-091-00	CERAMIC CHIP	8PF	0.25PF	50V
C9009	1-163-087-00	CERAMIC CHIP	4PF	0.25PF	50V
C9010	1-163-087-00	CERAMIC CHIP	4PF	0.25PF	50V
C9011	1-136-207-11	MYLAR	0.047UF	10.00%	250V
C9012	1-136-207-11	MYLAR	0.047UF	10.00%	250V
C9014	1-136-207-11	MYLAR	0.047UF	10.00%	250V
C9015	1-163-087-00	CERAMIC CHIP	4PF	0.25PF	50V
C9016	1-102-106-00	CERAMIC	100PF	10.00%	50V
C9018	1-107-961-91	ELECT	10UF	20.00%	250V
C9019	1-163-035-00	CERAMIC CHIP	0.047UF		50V
C9020	1-107-961-91	ELECT	10UF	20.00%	250V
C9021	1-107-961-91	ELECT	10UF	20.00%	250V
C9022	1-101-004-00	CERAMIC	0.01UF		50V
C9023	1-101-004-00	CERAMIC	0.01UF		50V
C9024	1-163-035-00	CERAMIC CHIP	0.047UF		50V
C9025	1-126-934-11	ELECT	220UF	20.00%	16V
C9026	1-163-035-00	CERAMIC CHIP	0.047UF		50V
C9027	1-101-004-00	CERAMIC	0.01UF		50V
C9028	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C9029	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C9030	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C9031	1-104-574-11	CERAMIC	0.0047UF	10.00%	2KV
C9032	1-162-116-00	CERAMIC	680PF	10.00%	2KV
C9033	1-107-662-11	ELECT	22UF	20.00%	250V
C9035	1-104-574-11	CERAMIC	0.0047UF	10.00%	2KV
C9042	1-126-940-11	ELECT	330UF	20.00%	25V
C9047	1-107-651-11	ELECT	4.7UF	20.00%	250V

<CONNECTOR>

REF NO.	PART NO.	DESCRIPTION
CN9001	* 1-564-512-11	PLUG, CONNECTOR 9P
CN9002	1-691-765-11	PLUG (MICRO CONNECTOR) 3P (KV-DR29M39/M69/M89)
CN9002	* 1-564-507-11	PLUG, CONNECTOR 4P (KV-DR29M63)
CN9003	1-695-915-11	TAB (CONTACT)
CN9004	1-695-915-11	TAB (CONTACT)
CN9007	1-785-879-11	CONNECTOR, ONE TOUCH

<DIODE>

REF NO.	PART NO.	DESCRIPTION	
D9002	8-719-400-75	MA3091	
D9005	8-719-404-50	MA111-TX (KV-DR29M39/M69/M89)	
D9005	8-719-081-97	MMDL914T1 (KV-DR29M63)	
D9006	8-719-051-85	HSS83TD	
D9007	8-719-051-85	HSS83TD	
D9008	8-719-051-85	HSS83TD	
D9009	8-719-908-03	GP08D	
D9010	8-719-110-17	RD10ESB2	
D9011	1-216-295-91	SHORT CHIP	0
D9012	1-216-295-91	SHORT CHIP	0
D9013	1-216-295-91	SHORT CHIP	0

<IC>

REF NO.	PART NO.	DESCRIPTION
IC9001	8-759-360-83	TDA6111Q/N4
IC9002	8-759-360-83	TDA6111Q/N4
IC9003	8-759-360-83	TDA6111Q/N4

<JACK>

REF NO.	PART NO.	DESCRIPTION
J9001	⚠ 1-540-071-22	SOCKET, CRT

<COIL>

REF NO.	PART NO.	DESCRIPTION	
L9001	1-414-158-11	INDUCTOR	2.2UH
L9002	1-408-591-11	INDUCTOR	1UH
L9003	1-408-591-11	INDUCTOR	1UH
L9004	1-408-591-11	INDUCTOR	1UH
L9005	1-406-666-21	INDUCTOR	150UH
L9006	1-412-526-11	INDUCTOR	12UH

<FILTER>

REF NO.	PART NO.	DESCRIPTION
LP9001	* 4-042-408-01	PIN, COATING LEAD
LP9002	* 4-042-408-01	PIN, COATING LEAD

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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REF NO.	PART NO.	DESCRIPTION	REMARK		
LP9003	* 4-042-408-01	PIN, COATING LEAD			
LP9004	* 4-042-408-01	PIN, COATING LEAD			

<NEON LAMP>

REF NO.	PART NO.	DESCRIPTION
NL9001	1-519-526-11	LAMP, NEON
NL9003	1-519-526-11	LAMP, NEON

<TRANSISTOR>

REF NO.	PART NO.	DESCRIPTION
Q9001	8-729-026-49	2SA1037AK-T146-R (KV-DR29M39/M69/M89)
Q9001	8-729-010-05	MSB709-RT1 (KV-DR29M63)
Q9009	8-729-026-49	2SA1037AK-T146-R (KV-DR29M39/M69/M89)
Q9009	8-729-010-05	MSB709-RT1 (KV-DR29M63)
Q9010	8-729-026-49	2SA1037AK-T146-R (KV-DR29M39/M69/M89)
Q9010	8-729-010-05	MSB709-RT1 (KV-DR29M63)
Q9011	8-729-026-49	2SA1037AK-T146-R (KV-DR29M39/M69/M89)
Q9011	8-729-010-05	MSB709-RT1 (KV-DR29M63)

<RESISTOR>

REF NO.	PART NO.	DESCRIPTION			
R9001	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R9006	1-216-073-91	RES-CHIP	10K	5%	1/10W
R9007	1-208-789-11	METAL CHIP	2K	0.5%	1/10W
R9008	1-216-085-91	RES-CHIP	33K	5%	1/10W
R9012	1-216-049-11	RES-CHIP	1K	5%	1/10W
R9013	1-216-049-11	RES-CHIP	1K	5%	1/10W
R9018	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R9019	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R9021	1-216-295-91	SHORT CHIP	0		
R9023	1-216-295-91	SHORT CHIP	0		
R9026	1-208-789-11	METAL CHIP	2K	0.5%	1/10W
R9031	1-208-789-11	METAL CHIP	2K	0.5%	1/10W
R9033	1-208-808-11	METAL CHIP	12K	0.5%	1/10W
R9034	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R9035	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R9036	1-216-049-11	RES-CHIP	1K	5%	1/10W
R9037	1-240-233-71	METAL OXIDE	100	5%	3W
R9038	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R9039	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R9041	1-216-049-11	RES-CHIP	1K	5%	1/10W
R9042	1-216-049-11	RES-CHIP	1K	5%	1/10W
R9043	1-240-233-71	METAL OXIDE	100	5%	3W
R9044	1-240-233-71	METAL OXIDE	100	5%	3W
R9047	1-219-744-11	CARBON	220	5%	1/2W
R9048	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R9049	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R9050	1-249-424-11	CARBON	3.9K	5%	1/4W
R9051	1-219-744-11	CARBON	220	5%	1/2W
R9052	1-219-744-11	CARBON	220	5%	1/2W
R9053	1-249-424-11	CARBON	3.9K	5%	1/4W
R9054	1-249-424-11	CARBON	3.9K	5%	1/4W
R9055	1-243-994-91	CEMENTED	820K	5%	0.5W
R9056	1-219-750-91	CARBON	22K	5%	1/2W
R9057	1-220-827-91	RESISTOR	560K	5%	1/2W
R9058	1-243-994-91	CEMENTED	820K	5%	0.5W
R9059	1-219-746-11	CARBON	1K	5%	1/2W
R9061	1-219-743-11	CARBON	100	5%	1/2W
R9065	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R9068	1-216-101-00	RES-CHIP	150K	5%	1/10W
R9069	1-219-743-11	CARBON	100	5%	1/2W
R9070	1-216-037-00	RES-CHIP	330	5%	1/10W
R9071	1-216-037-00	RES-CHIP	330	5%	1/10W
R9072	1-216-037-00	RES-CHIP	330	5%	1/10W
R9073	1-216-057-00	RES-CHIP	2.2K	5%	1/10W

<VARIABLE RESISTOR>

REF NO.	PART NO.	DESCRIPTION
RV9001	1-241-656-11	RES, ADJ, METAL FILM 110M
RV9002	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M

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REF NO.	PART NO.	DESCRIPTION
	* A-1300-292-A	D BOARD COMPLETE (KV-DR29M39)
	* A-1300-387-A	D BOARD COMPLETE (KV-DR29M63)
	* A-1300-405-A	D BOARD COMPLETE (KV-DR29M69/DR29M89)

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REF NO.	PART NO.	DESCRIPTION
	* 4-363-146-00	HEAT SINK, V.OUT
	* 4-374-846-01	COVER, CAPACITOR, CAP TYPE
	4-382-854-11	SCREW (M3X10), P, SW (+)
	4-382-854-21	SCREW (M3X14), P, SW (+)

<CAPACITOR>

REF NO.	PART NO.	DESCRIPTION			
C6100	1-161-830-00	CERAMIC	0.0047UF	99%	500V
C6101	1-107-680-91	ELECT	22UF	20.00%	450V
C6102	1-161-830-00	CERAMIC	0.0047UF	99%	500V
C6103	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C6104	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C6105	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6106	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C6107	1-137-605-11	MYLAR	0.01UF	10.00%	250V
C6108	1-161-830-00	CERAMIC	0.0047UF	99%	500V
C6109	1-126-971-11	ELECT	470UF	20.00%	50V
C6110	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C6111	1-161-830-00	CERAMIC	0.0047UF	99%	500V
C6113	1-126-965-91	ELECT	22UF	20.00%	50V
C6334	1-126-940-11	ELECT	330UF	20.00%	25V
C6600	1-128-550-11	ELECT	2200UF	20.00%	50V
C6601	1-126-967-11	ELECT	47UF	20.00%	50V
C6602	1-129-720-00	FILM (KV-DR29M39/M63)	0.033UF	5.00%	630V
C6603	1-126-949-11	ELECT	220UF	20.00%	35V
C6604	1-126-967-11	ELECT	47UF	20.00%	50V
C6606	1-162-927-11	CERAMIC CHIP (KV-DR29M69/M89)	100PF	5.00%	50V
C6607	⚠ 1-119-892-51	CERAMIC	470PF	10.00%	250V
C6608	⚠ 1-119-892-51	CERAMIC	470PF	10.00%	250V
C6609	1-126-960-11	ELECT (KV-DR29M69/M89)	1UF	20.00%	50V
C6110	1-163-009-91	CERAMIC CHIP (KV-DR29M69/M89)	0.001UF	10.00%	50V
C6611	1-115-416-11	CERAMIC CHIP (KV-DR29M69/M89)	0.001UF	5.00%	25V
C6612	1-126-964-11	ELECT (KV-DR29M39/M63)	10UF	20.00%	50V
C6613	1-161-830-00	CERAMIC	0.0047UF	99%	500V
C6614	1-161-830-00	CERAMIC	0.0047UF		500V
C6615	1-162-927-11	CERAMIC CHIP (KV-DR29M39/M63)	100PF	5.00%	50V
C6616	1-126-961-11	ELECT (KV-DR29M39/M63)	2.2UF	20.00%	50V

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REF NO.	PART NO.	DESCRIPTION			REMARK
C6617	1-161-830-00	CERAMIC	0.0047UF		500V
C6618	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	16V
		(KV-DR29M39/M63)			
C6619	1-161-830-00	CERAMIC	0.0047UF	99%	500V
C6620	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	16V
C6621	1-131-940-11	ELECT	1200UF	20%	250V
		(KV-DR29M69/M89)			
C6622	1-131-940-11	ELECT	1200UF	20%	250V
		(KV-DR29M69/M89)			
C6624	1-126-966-11	ELECT	33UF	20.00%	50V
		(KV-DR29M39/M63)			
C6629	1-125-906-11	ELECT	560UF	20.00%	450V
		(KV-DR29M39/M63)			
C6633	1-136-479-11	FILM	0.001UF	2.00%	50V
C6634	1-126-964-11	ELECT	10UF	20.00%	50V
C6635	1-126-963-11	ELECT	4.7UF	20.00%	50V
C6637	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6645	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C6647	1-126-964-11	ELECT	10UF	20.00%	50V
C6648	1-125-969-91	CERAMIC	680PF	10.00%	1KV
C6649	1-125-969-91	CERAMIC	680PF	10.00%	1KV
C6650	1-125-969-91	CERAMIC	680PF	10.00%	1KV
C6651	1-125-969-91	CERAMIC	680PF	10.00%	1KV
C6652	1-110-626-11	ELECT	330UF	20.00%	160V
C6653	1-136-287-11	MYLAR	0.0047UF	5.00%	50V
C6654	1-126-936-11	ELECT	3300UF	20.00%	16V
C6655	1-126-936-11	ELECT	3300UF	20.00%	16V
C6656	1-136-165-00	FILM	0.1UF	5.00%	50V
C6658	1-104-330-91	CERAMIC	470PF	10.00%	1KV
C6660	1-126-960-11	ELECT	1UF	20.00%	50V
C6661	1-126-947-11	ELECT	47UF	20.00%	16V
C6662	1-126-947-11	ELECT	47UF	20.00%	16V
C6665	1-126-964-11	ELECT	10UF	20.00%	50V
C6666	1-137-150-11	MYLAR	0.01UF	5.00%	50V
C6668	1-126-947-11	ELECT	47UF	20.00%	25V
C6669	1-125-969-91	CERAMIC	680PF	10.00%	1KV
C6670	1-125-969-91	CERAMIC	680PF	10.00%	1KV
C6672	1-135-946-21	FILM	47000PF	3%	800V
C6673	1-136-189-00	MYLAR	0.1UF	10.00%	250V
C6674	1-128-527-11	ELECT	330UF	20.00%	25V
C6679	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C6800	1-102-129-00	CERAMIC	0.01UF	10.00%	50V
C6801	1-126-947-11	ELECT	47UF	20.00%	16V
C6802	1-162-974-11	CERAMIC CHIP	0.01UF		50V
C6805	1-111-087-11	ELECT	330UF	20.00%	25V
C6806	1-107-933-11	ELECT	100UF	20.00%	100V
C6808	1-137-401-11	MYLAR	0.22UF	10.00%	100V
C6809	1-102-074-00	CERAMIC	0.001UF	10.00%	50V
C6810	1-106-220-00	MYLAR	0.1UF	10.00%	100V
C6811	1-111-087-11	ELECT	330UF	20.00%	25V
C6813	1-126-935-11	ELECT	470UF	20.00%	16V
C6814	1-125-889-91	CERAMIC CHIP	2.2UF	10%	10V
C6816	1-136-060-00	FILM	0.047UF	5.00%	400V
C6818	1-126-960-11	ELECT	1UF	20.00%	50V
C6819	1-126-960-11	ELECT	1UF	20.00%	50V
C6820	1-102-114-00	CERAMIC	470PF	10.00%	50V
C6821	1-106-383-00	MYLAR	0.047UF	10.00%	200V
C6822	1-102-114-00	CERAMIC	470PF	10.00%	50V
C6823	1-106-383-00	MYLAR	0.047UF	10.00%	200V
C6826	1-102-030-00	CERAMIC	330PF	10.00%	500V
C6827	1-102-030-00	CERAMIC	330PF	10.00%	500V
C6829	1-162-134-11	CERAMIC	470PF	10.00%	2KV

REF NO.	PART NO.	DESCRIPTION			REMARK
C6831	1-117-835-11	FILM	6200PF	3.00%	1.5KV
C6832	1-117-836-11	FILM	6800PF	3.00%	1.5KV
C6836	1-127-681-11	FILM	10000PF	2%	100V
C6837	1-125-893-11	FILM	680PF	3.00%	1.5KV
C6838	1-125-893-11	FILM	680PF	3.00%	1.5KV
C6839	1-126-933-11	ELECT	100UF	20.00%	16V
C6840	1-126-933-11	ELECT	100UF	20.00%	16V
C6841	1-115-511-11	FILM	0.12UF	5.00%	250V
C6842	1-117-667-71	FILM	0.47UF	5.00%	250V
C6843	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C6844	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6845	1-115-514-11	FILM	0.22UF	5.00%	250V
C6846	1-109-945-11	FILM	0.18UF	5.00%	250V
		(KV-DR29M39/M63)			
C6848	1-113-979-51	FILM	0.047UF	5%	250V
C6849	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6850	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6851	1-107-639-11	ELECT	47UF	20.00%	160V
C6853	1-102-228-00	CERAMIC	470PF	10.00%	500V
C6854	1-126-941-11	ELECT	470UF	20.00%	25V
C6855	1-123-024-21	ELECT	33UF		160V
C6856	1-126-971-11	ELECT	470UF	20.00%	50V
C6857	1-102-228-00	CERAMIC	470PF	10.00%	500V
C6858	1-102-228-00	CERAMIC	470PF	10.00%	500V
C6859	1-162-129-00	CERAMIC	150PF	10.00%	2KV
C6860	1-162-131-11	CERAMIC	220PF	10.00%	2KV
C6862	1-130-202-00	FILM	0.022UF	5.00%	200V
C6864	1-129-898-00	FILM	0.0022UF	5.00%	630V
C6865	1-130-202-00	FILM	0.022UF	5.00%	400V
C6866	1-102-030-00	CERAMIC	330PF	10.00%	500V
C6867	1-130-785-11	MYLAR	0.47UF	10.00%	100V
C6868	1-162-974-11	CERAMIC CHIP	0.01UF		50V
C6879	1-107-960-11	ELECT	4.7UF	20.00%	160V
C6882	1-104-574-11	CERAMIC	0.0047UF	10.00%	2KV
C6884	1-125-889-91	CERAMIC CHIP	2.2UF	10%	10V
C6885	1-162-131-11	CERAMIC	220PF	10.00%	2KV
		(KV-DR29M39/M63)			
C6886	1-126-964-11	ELECT	10UF	20.00%	50V
C6888	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
		<CONNECTOR>			
CN6602	* 1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P			
		(KV-DR29M39/M69/M89)			
CN6603	* 1-691-134-11	PIN, CONNECTOR (PC BOARD) 2P			
		(KV-DR29M39/M63)			
CN6603	* 1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P			
		(KV-DR29M69/M89)			
CN6604	1-580-843-11	PIN, CONNECTOR (POWER)			
CN6605	* 1-764-333-11	PLUG, CONNECTOR 10P			
CN6606	* 1-764-333-11	PLUG, CONNECTOR 10P			
CN6609	* 1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P			
CN6610	* 1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P			
CN6611	* 1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P			
CN6612	* 1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P			
CN6613	* 1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P			
CN6614	* 1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P			
CN6615	* 1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P			
CN6616	* 1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P			
CN6618	* 1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P			
CN6619	1-564-507-41	PLUG, CONNECTOR 4P			
CN6801	* 1-785-270-12	PIN, DY CONNECTOR (PC BOARD)			
CN6802	* 1-764-333-11	PLUG, CONNECTOR 10P			

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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REF NO.	PART NO.	DESCRIPTION	REMARK
CN6803	1-793-495-11	CONNECTOR, BOARD TO BOARD 50P	
CN6804	1-691-765-11	PLUG (MICRO CONNECTOR) 3P (KV-DR29M39/M63)	
CN6805	1-695-915-11	TAB (CONTACT)	
CN6806	1-764-334-11	PLUG, CONNECTOR 11P	
CN6809	1-695-915-11	TAB (CONTACT)	
CN6810	1-785-879-11	CONNECTOR, ONE TOUCH	
CN6811	* 1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P	
CN6812	* 1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P	
		<DIODE>	
D6100	8-719-077-76	D2SB60A-F04	
D6101	8-719-110-49	RD18ES-B2	
D6102	8-719-082-03	DIODE MM3Z15VT1	
D6103	8-719-081-97	MMDL914T1	
D6104	8-719-510-48	D1N20R	
D6105	8-719-948-45	ERA22-08	
D6108	8-719-063-73	DIODE D1NL20U-TR	
D6323	8-719-032-12	D1NS6	
D6601	8-719-911-19	1SS119-25	
D6602	8-719-081-97	MMDL914T1 (KV-DR29M69/M89)	
D6603	8-719-081-97	MMDL914T1 (KV-DR29M69/M89)	
D6604	8-719-081-97	MMDL914T1 (KV-DR29M69/M89)	
D6605	8-719-510-53	D4SB60L	
D6608	8-719-081-97	MMDL914T1	
D6609	8-719-911-19	1SS119-25 (KV-DR29M69/M89)	
D6610	8-719-081-97	MMDL914T1 (KV-DR29M69/M89)	
D6611	8-719-081-97	MMDL914T1 (KV-DR29M69/M89)	
D6612	8-719-911-55	U05G (KV-DR29M69/M89)	
D6613	8-719-911-55	U05G (KV-DR29M69/M89)	
D6614	8-719-110-30	RD12ES-B1	
D6615	8-719-911-19	1SS119-25	
D6618	8-719-979-64	UF4005PKG23	
D6620	8-719-063-73	DIODE D1NL20U-TR	
D6623	8-719-911-19	1SS119-25	
D6631	8-719-050-18	D4SBL20U	
D6632	8-719-081-97	MMDL914T1	
D6633	8-719-510-12	D10SC4M	
D6635	8-719-110-47	RD18ESB	
D6636	8-719-911-19	1SS119-25	
D6639	8-719-063-73	DIODE D1NL20U-TR	
D6640	8-719-110-72	RD30ESB2	
D6641	8-719-109-96	RD6.8ES-B1	
D6642	8-719-911-19	1SS119-25	
D6644	8-719-052-92	D10SBS4F	
D6648	8-719-110-30	RD12ES-B1 (KV-DR29M69/M89)	
D6654	8-719-052-92	D10SBS4F	
D6802	8-719-911-19	1SS119-25	
D6803	8-719-510-73	S3L20UF4	
D6804	8-719-911-19	1SS119-25	
D6806	8-719-911-19	1SS119-25	
D6808	8-719-110-02	RD7.5ES-B1	
D6812	8-719-110-39	RD15ES-B1	
D6813	8-719-302-43	EL1Z	
D6814	8-719-018-82	RGP02-20EL-6394	
D6816	8-719-510-73	S3L20UF4	
D6817	8-719-510-73	S3L20UF4	
D6820	8-719-970-87	ERA38-06	
D6821	8-719-970-87	ERA38-06	
D6824	8-719-510-73	S3L20UF4	
D6825	8-719-050-38	DIODE M1MA152WK-T1	

REF NO.	PART NO.	DESCRIPTION	REMARK
D6830	8-719-988-61	1SS355TE-17	
D6831	8-719-945-81	ERC06-15SA	
		<FERRITE BEAD>	
FB6602	1-239-358-21	FILTER, NOISE	
FB6603	1-239-358-21	FILTER, NOISE	
FB6604	1-410-396-41	FERRITE 0.45UH	
FB6605	1-410-396-41	FERRITE 0.45UH	
FB6606	1-410-397-21	FERRITE 1.1UH	
FB6607	1-410-396-41	FERRITE 0.45UH	
FB6608	1-410-396-41	FERRITE 0.45UH	
		<IC>	
IC6600	8-759-670-30	MCZ3001D	
IC6601	8-759-198-31	UPC1093J-1-T (KV-DR29M39/M63)	
IC6607	8-749-012-13	DM-58	
IC6608	8-759-133-90	UPC339C (KV-DR29M39/M63)	
IC6800	8-759-696-71	STV9379A	
IC6804	8-759-394-36	BA09T	
IC6805	8-759-394-35	BA12T	
		<CHIP CONDUCTOR>	
JR6601	1-216-295-91	SHORT CHIP 0	
JR6603	1-216-295-91	SHORT CHIP 0	
JR6608	1-216-295-91	SHORT CHIP 0	
JR6609	1-216-295-91	SHORT CHIP 0	
JR6614	1-216-295-91	SHORT CHIP 0	
JR6615	1-216-295-91	SHORT CHIP 0	
JR6616	1-216-295-91	SHORT CHIP 0	
		<COIL>	
L6604	1-412-525-31	INDUCTOR 10UH	
L6605	1-412-525-31	INDUCTOR 10UH	
L6606	1-412-525-31	INDUCTOR 10UH	
L6607	1-412-519-11	INDUCTOR 3.3UH	
L6608	1-412-525-31	INDUCTOR 10UH	
L6800	1-412-525-31	INDUCTOR 10UH	
L6801	1-406-675-11	INDUCTOR 4.7MH	
L6803	1-406-985-11	INDUCTOR 2.2MH	
L6804	1-412-519-11	INDUCTOR 3.3UH	
L6805	1-412-519-11	INDUCTOR 3.3UH	
L6806	1-412-519-11	INDUCTOR 3.3UH	
L6807	1-412-552-11	INDUCTOR 2.2MH	
L6808	1-406-674-11	INDUCTOR 3.3MH	
		<PHOTO COUPLER>	
PH6601 ⚠	8-749-924-35	ON3171-R	
PH6602 ⚠	8-749-924-35	ON3171-R	
		<IC LINK>	
PS6605	1-533-597-41	LINK, IC	
PS6606	1-533-597-41	LINK, IC	
PS6609	1-533-597-41	LINK, IC	
PS6801	1-532-841-21	LINK, IC	

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REF NO.	PART NO.	DESCRIPTION				REMARK
		<TRANSISTOR>				
Q6100	8-729-046-40	2SK2663				
Q6102	8-729-023-22	2SD2114K				
Q6600	8-729-052-32	IRFIB7N50A				
Q6601	8-729-119-78	2SC2785-HFE				
Q6602	8-729-119-78	2SC2785-HFE (KV-DR29M69/M89)				
Q6603	8-729-052-32	IRFIB7N50A				
Q6604	8-729-119-76	2SA1175-HFE				
Q6605	8-729-230-49	2SC2712-YG (KV-DR29M39/M63)				
Q6608	8-729-200-21	2SC2500-B				
Q6609	8-729-029-56	DTA144ESA				
Q6610	8-729-119-78	2SC2785-HFE				
Q6611	8-729-029-66	DTC114ESA				
Q6613	8-729-030-02	DTC144ESA				
Q6614	8-729-119-76	2SA1175-HFE (KV-DR29M39/M63)				
Q6619	8-729-119-78	2SC2785-HFE				
Q6620	8-729-119-78	2SC2785-HFE				
Q6800	8-729-421-19	UN2213				
Q6802	8-729-025-19	IRFI740G				
Q6803	8-729-119-76	2SA1175-HFE				
Q6804	8-729-119-78	2SC2785-HFE				
Q6805	8-729-140-96	2SD774-34				
Q6806	8-729-140-96	2SD774-34				
Q6807	8-729-056-17	TRANSISTOR 2SC5696-SONY-CA				
Q6808	8-729-056-16	TRANSISTOR 2SC5698-SONY-CA				
Q6809	8-729-050-48	TRANSISTOR IRF614-005				
Q6810	8-729-047-60	IRFI830G-LF49				
Q6811	8-729-010-25	MSD601-RT1				
Q6812	8-729-043-95	2SC3840(3)				
Q6819	8-729-010-25	MSD601-RT1				
Q6820	8-729-010-25	MSD601-RT1				
Q6821	8-729-010-25	MSD601-RT1				
		<RESISTOR>				
R6100	1-260-298-51	CARBON	3.3	5%	1/2W	
R6101	1-216-045-00	RES-CHIP	680	5%	1/10W	
R6102	1-249-389-11	CARBON	4.7	5%	1/4W	
R6103	1-216-009-91	RES-CHIP	22	5%	1/10W	
R6104	1-240-205-91	CARBON	22M	5%	1/2W	
R6105	1-216-097-11	RES-CHIP	100K	5%	1/10W	
R6106	1-216-057-00	RES-CHIP	2.2K	5%	1/10W	
R6107	1-216-089-91	RES-CHIP	47K	5%	1/10W	
R6108	1-215-493-00	METAL	1M	1%	1/4W	
R6110	1-249-413-11	CARBON	470	5%	1/4W	
R6500	1-220-797-11	CEMENTED	0.47	5%	10W	
R6600	1-216-295-91	SHORT CHIP	0			
R6602	1-249-417-11	CARBON	1K	5%	1/4W	
R6603	1-218-871-11	METAL CHIP (KV-DR29M39/M63)	10K	0.5%	1/10W	
R6604	1-218-871-11	METAL CHIP (KV-DR29M39/M63)	10K	0.5%	1/10W	
R6605	1-215-471-00	METAL (KV-DR29M69/M89)	120K	1%	1/4W	
R6606	1-215-466-00	METAL (KV-DR29M69/M89)	75K	1%	1/4W	
R6607	1-215-489-00	METAL (KV-DR29M69/M89)	680K	1%	1/4W	
R6608	1-215-489-00	METAL (KV-DR29M69/M89)	680K	1%	1/4W	
R6609	1-215-489-00	METAL (KV-DR29M69/M89)	680K	1%	1/4W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R6610	1-208-830-11	METAL CHIP (KV-DR29M69/M89)	100K	0.5%	1/10W	
R6611	1-218-863-11	METAL CHIP (KV-DR29M39/M63)	4.7K	0.5%	1/10W	
R6612	1-215-471-00	METAL (KV-DR29M69/M89)	120K	1%	1/4W	
R6613	1-215-489-00	METAL (KV-DR29M69/M89)	680K	1%	1/4W	
R6614	1-215-489-00	METAL (KV-DR29M69/M89)	680K	1%	1/4W	
R6615	1-215-489-00	METAL (KV-DR29M69/M89)	680K	1%	1/4W	
R6616	1-208-830-11	METAL CHIP (KV-DR29M69/M89)	100K	0.5%	1/10W	
R6617	1-218-909-11	METAL CHIP (KV-DR29M69/M89)	390K	0.5%	1/10W	
R6618	1-215-466-00	METAL (KV-DR29M69/M89)	75K	1%	1/4W	
R6619	1-216-853-11	RES-CHIP (KV-DR29M69/M89)	470K	5%	1/10W	
R6620	1-218-911-11	METAL CHIP (KV-DR29M69/M89)	470K	0.5%	1/10W	
R6621	1-216-073-91	RES-CHIP (KV-DR29M69/M89)	10K	5%	1/10W	
R6622	1-220-797-11	CEMENTED	0.47	5%	10W	
R6623	1-215-864-00	METAL OXIDE (KV-DR29M69/M89)	150	5%	1W	
R6624	1-218-895-11	METAL CHIP (KV-DR29M39/M63)	100K	0.5%	1/10W	
R6625	1-215-864-00	METAL OXIDE	150	5%	1W	
R6626	1-215-444-00	METAL	9.1K	1%	1/4W	
R6627	1-215-481-00	METAL	330K	1%	1/4W	
R6628	1-216-833-11	RES-CHIP (KV-DR29M39/M63)	10K	5%	1/10W	
R6629	1-215-481-00	METAL	330K	1%	1/4W	
R6630	1-215-481-00	METAL	330K	1%	1/4W	
R6631	1-208-808-11	METAL CHIP	12K	0.5%	1/10W	
R6632	1-208-758-11	METAL CHIP	100	0.5%	1/10W	
R6633	1-215-458-00	METAL (KV-DR29M39/M63)	36K	1%	1/4W	
R6634	1-215-489-00	METAL (KV-DR29M39/M63)	680K	1%	1/4W	
R6635	1-215-489-00	METAL (KV-DR29M39/M63)	680K	1%	1/4W	
R6636	1-215-489-00	METAL (KV-DR29M39/M63)	680K	1%	1/4W	
R6637	1-215-463-00	METAL (KV-DR29M39/M63)	56K	1%	1/4W	
R6638	1-245-291-11	RES, CEMENT-COATED 2.2 (KV-DR29M39/M63)				
R6638	1-240-876-11	CEMENTED (KV-DR29M69/M89)	1	5%	15W	
R6639	1-240-876-11	CEMENTED (KV-DR29M69/M89)	1	5%	15W	
R6640	1-216-081-00	RES-CHIP (KV-DR29M69/M89)	22K	5%	1/10W	
R6641	1-260-131-11	CARBON (KV-DR29M69/M89)	470K	5%	1/2W	
R6642	1-260-131-11	CARBON (KV-DR29M69/M89)	470K	5%	1/2W	
R6643	1-216-081-00	RES-CHIP (KV-DR29M69/M89)	22K	5%	1/10W	
R6644	1-249-417-11	CARBON	1K	5%	1/4W	
R6645	1-220-886-11	FUSIBLE	0.1	10%	1W	
R6647	1-216-639-11	METAL CHIP	330	0.5%	1/10W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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REF NO.	PART NO.	DESCRIPTION		REMARK	
R6648	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
		(KV-DR29M39/M63)			
R6649	1-249-425-11	CARBON	4.7K	5%	1/4W
R6654	1-216-841-11	RES-CHIP	47K	5%	1/10W
		(KV-DR29M39/M63)			
R6655	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6658	1-249-393-11	CARBON	10	5%	1/4W
R6659	1-249-393-11	CARBON	10	5%	1/4W
R6660	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6662	1-249-429-11	CARBON	10K	5%	1/4W
R6663	1-249-429-11	CARBON	10K	5%	1/4W
R6664	1-249-421-11	CARBON	2.2K	5%	1/4W
R6666	1-249-429-11	CARBON	10K	5%	1/4W
R6667	1-249-425-11	CARBON	4.7K	5%	1/4W
R6669	1-249-417-11	CARBON	1K	5%	1/4W
R6670	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6671	1-217-611-00	METAL	0.1	10%	2W
R6672	1-249-421-11	CARBON	2.2K	5%	1/4W
R6674	1-249-418-11	CARBON	1.2K	5%	1/4W
R6675	1-208-774-11	METAL CHIP	470	0.5%	1/10W
R6679	1-249-437-11	CARBON	47K	5%	1/4W
R6680	1-216-362-11	METAL OXIDE	0.27	5%	2W
R6681	1-249-429-11	CARBON	10K	5%	1/4W
R6682	1-249-416-11	CARBON	820	5%	1/4W
R6683	1-260-127-11	CARBON	220K	5%	1/2W
R6685	1-249-421-11	CARBON	2.2K	5%	1/4W
R6686 ⚠	1-247-289-11	CARBON	8.2M	5%	1W
R6688	1-249-417-11	CARBON	1K	5%	1/4W
R6689	1-249-389-11	CARBON	4.7	5%	1/4W
R6690	1-249-429-11	CARBON	10K	5%	1/4W
R6691	1-260-131-11	CARBON	470K	5%	1/2W
R6692	1-249-410-11	CARBON	270	5%	1/4W
R6693	1-215-451-00	METAL	18K	1%	1/4W
R6694	1-215-471-00	METAL	120K	1%	1/4W
R6696	1-215-925-11	METAL OXIDE	22K	5%	3W
R6699	1-216-833-11	RES-CHIP	10K	5%	1/10W
		(KV-DR29M39/M63)			
R6701	1-216-833-11	RES-CHIP	10K	5%	1/10W
		(KV-DR29M39/M63)			
R6702	1-216-840-11	RES-CHIP	39K	5%	1/10W
		(KV-DR29M39/M63)			
R6704	1-249-377-11	CARBON	0.47	5%	1/4W
R6710	1-217-158-00	METAL	0.47	10%	5W
R6713	1-218-887-11	METAL CHIP	47K	0.5%	1/10W
		(KV-DR29M39/M63)			
R6715	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6801	1-216-081-00	RES-CHIP	22K	5%	1/10W
R6802	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6803	1-215-435-00	METAL	3.9K	1%	1/4W
R6804	1-218-861-11	METAL CHIP	3.9K	0.5%	1/10W
R6805	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R6806	1-218-861-11	METAL CHIP	3.9K	0.5%	1/10W
R6807	1-249-383-11	CARBON	1.5	5%	1/4W
R6808	1-216-603-11	METAL CHIP	10	0.5%	1/10W
R6810	1-214-798-21	METAL	1.8	1%	1/2W
R6811	1-215-913-11	METAL OXIDE	220	5%	3W
R6813	1-214-798-21	METAL	1.8	1%	1/2W
R6815	1-216-025-11	RES-CHIP	100	5%	1/10W
R6816	1-216-085-91	RES-CHIP	33K	5%	1/10W
R6817	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6818	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6822	1-215-896-00	METAL OXIDE	4.7K	5%	2W
R6823	1-215-895-11	METAL OXIDE	3.3K	5%	2W
R6824	1-249-411-11	CARBON	330	5%	1/4W
R6825	1-249-411-11	CARBON	330	5%	1/4W
R6826	1-215-895-11	METAL OXIDE	3.3K	5%	2W
R6827	1-216-460-21	METAL OXIDE	3.9K	5%	2W
R6828	1-249-419-11	CARBON	1.5K	5%	1/4W
R6829	1-249-419-11	CARBON	1.5K	5%	1/4W
R6830	1-247-764-11	CARBON	10K	5%	1/2W
R6831	1-247-764-11	CARBON	10K	5%	1/2W
R6832	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6834	1-243-979-71	METAL OXIDE	0.1	5%	2W
R6835	1-216-365-00	METAL OXIDE	0.47	5%	2W
R6836	1-215-880-00	METAL OXIDE	10	5%	2W
R6837	1-215-880-00	METAL OXIDE	10	5%	2W
R6839	1-249-405-11	CARBON	100	5%	1/4W
R6841	1-216-434-11	METAL OXIDE	1.8K	5%	1W
R6842	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R6843	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6844	1-247-807-31	CARBON	100	5%	1/4W
R6846	1-260-127-11	CARBON	220K	5%	1/2W
R6847	1-216-295-91	SHORT CHIP	0		
R6848	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6849	1-216-097-11	RES-CHIP	100K	5%	1/10W
R6850	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6851	1-260-288-11	CARBON	0.47	5%	1/2W
R6852	1-216-345-11	METAL OXIDE	0.47	5%	1W
R6853	1-260-288-11	CARBON	0.47	5%	1/2W
R6854	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R6855	1-214-897-00	METAL	22K	1%	1/2W
R6856	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R6857	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R6858	1-214-897-00	METAL	22K	1%	1/2W
R6859	1-215-871-11	METAL OXIDE	2.2K	5%	1W
R6860	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R6863	1-215-894-11	METAL OXIDE	2.2K	5%	2W
R6864	1-215-429-00	METAL	2.2K	1%	1/4W
R6865	1-215-429-00	METAL	2.2K	1%	1/4W
R6866	1-215-423-00	METAL	1.2K	1%	1/4W
R6867	1-249-425-11	CARBON	4.7K	5%	1/4W
R6868	1-249-425-11	CARBON	4.7K	5%	1/4W
R6869	1-216-849-11	RES-CHIP	220K	5%	1/10W
R6870	1-216-085-91	RES-CHIP	33K	5%	1/10W
R6872	1-260-125-11	CARBON	150K	5%	1/2W
R6873	1-260-125-11	CARBON	150K	5%	1/2W
R6875	1-249-417-11	CARBON	1K	5%	1/4W
R6876	1-216-391-11	METAL OXIDE	1.5	5%	3W
R6880	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R6884	1-249-441-11	CARBON	100K	5%	1/4W
R6889	1-260-123-11	CARBON	100K	5%	1/2W
R6890	1-216-295-91	SHORT CHIP	0		
R6894	1-260-123-11	CARBON	100K	5%	1/2W
R6895	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6896	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6897	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6899	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6905	1-249-389-11	CARBON	4.7	5%	1/4W
R6906	1-214-897-00	METAL	22K	1%	1/2W
R6908	1-247-903-00	CARBON	1M	5%	1/4W
R6909	1-247-903-00	CARBON	1M	5%	1/4W
R6910	1-247-895-91	CARBON	470K	5%	1/4W

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

D D5

REF NO.	PART NO.	DESCRIPTION		REMARK	
		<RELAY>			
RY6601 ⚠	1-755-198-12	RELAY			
RY6602	1-755-357-11	RELAY, AC POWER (KV-DR29M69/M89)			
RY6603	1-755-357-11	RELAY, AC POWER			
		<TRANSFORMER>			
T6100 ⚠	1-433-844-11	TRANSFORMER, CONVERTER			
T6602 ⚠	1-435-690-11	TRANSFORMER, CONVERTER (PIT)			
T6800	1-429-741-11	TRANSFORMER, DRIVE			
T6801	1-437-690-11	TRANSFORMER, FERRITE (DFT)			
T6802	1-437-430-11	TRANSFORMER, FERRITE (HDT)			
T6803 ⚠	1-453-325-12	TRANSFORMER ASSY FLY BACK (NX-4522//M3B4)			
T6804	1-437-430-11	TRANSFORMER, FERRITE (HDT)			
		<THERMISTOR>			
TH6100	1-803-586-11	THERMISTOR, NTC			
TH6601	1-803-540-11	THERMISTOR			
TH6801	1-800-193-00	THERMISTOR			
		<VARISTOR>			
VD6603	1-803-830-11	VARISTOR (ERZV14D621) (KV-DR29M39/M63)			

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*	A-1400-486-A	D5 BOARD MOUNTED (KV-DR29M39/DR29M69/DR29M89)			
*	A-1400-689-A	D5 BOARD MOUNTED (KV-DR29M63)			
		**********************************			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		<CAPACITOR>			
C6101	1-126-965-91	ELECT	22UF	20.00%	50V
C6102	1-126-965-91	ELECT	22UF	20.00%	50V
C6103	1-107-725-11	CERAMIC CHIP	0.1UF	10.00%	16V
C6104	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C6105	1-126-960-11	ELECT	1UF	20.00%	50V
C6106	1-136-347-11	FILM	0.0047UF	5.00%	630V
C6107	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6108	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6109	1-129-716-00	FILM	0.015UF	5.00%	630V
C6110	1-126-947-11	ELECT	47UF	20.00%	25V
C6111	1-136-165-00	FILM	0.1UF	5.00%	50V
C6114	1-107-725-11	CERAMIC CHIP	0.1UF	10.00%	16V
C6115	1-126-947-11	ELECT	47UF	20.00%	25V
C6116	1-136-479-11	FILM	0.001UF	2.00%	50V
C6117	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C6118	1-107-725-11	CERAMIC CHIP	0.1UF	10.00%	16V
C6119	1-162-960-11	CERAMIC CHIP	220PF	10.00%	50V
C6201	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C6202	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C6203	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C6204	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C6205	1-136-479-11	FILM	0.001UF	2.00%	50V
C6206	1-136-479-11	FILM	0.001UF	2.00%	50V

REF NO.	PART NO.	DESCRIPTION		REMARK	
C6208	1-126-968-11	ELECT	100UF	20.00%	50V
C6209	1-104-663-11	ELECT	33UF	20.00%	25V
C6210	1-107-725-11	CERAMIC CHIP	0.1UF	10.00%	16V
C6213	1-126-965-91	ELECT	22UF	20.00%	50V
C6214	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6215	1-126-947-11	ELECT	47UF	20.00%	25V
C6216	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C6217	1-126-965-91	ELECT	22UF	20.00%	50V
C6218	1-126-947-11	ELECT	47UF	20.00%	25V
C6219	1-126-947-11	ELECT	47UF	20.00%	25V
C6220	1-107-725-11	CERAMIC CHIP	0.1UF	10.00%	16V
C6223	1-126-947-11	ELECT	47UF	20.00%	25V
C6227	1-107-725-11	CERAMIC CHIP	0.1UF	10.00%	16V
C6229	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6230	1-126-947-11	ELECT	47UF	20.00%	25V
C6233	1-126-964-11	ELECT	10UF	20.00%	50V
C6306	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C6402	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C6403	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C6404	1-115-416-11	CERAMIC CHIP	0.001UF	5.00%	25V
C6406	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6408	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C6409	1-126-947-11	ELECT	47UF	20.00%	25V
C6410	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6411	1-107-725-11	CERAMIC CHIP	0.1UF	10.00%	16V
C6412	1-126-947-11	ELECT	47UF	20.00%	25V
C6413	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6414	1-126-960-11	ELECT	1UF	20.00%	50V
C6416	1-126-934-11	ELECT	220UF	20.00%	16V
C6422	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C6423	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6424	1-136-479-11	FILM	0.001UF	2.00%	50V
C6427	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C6428	1-163-259-91	CERAMIC CHIP	220PF	5.00%	50V
C6429	1-126-965-91	ELECT	22UF	20.00%	50V
C6430	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C6432	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C6433	1-126-960-11	ELECT	1UF	20.00%	50V
C6434	1-107-725-11	CERAMIC CHIP	0.1UF	10.00%	16V
C6436	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6437	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6441	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C6442	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C6443	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6444	1-136-479-11	FILM	0.001UF	2.00%	50V
C6445	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C6451	1-216-295-91	SHORT CHIP	0		
C6452	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C6454	1-208-854-11	METAL CHIP	1M	0.5%	1/10W
C6458	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C6459	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C6460	1-115-185-11	CERAMIC CHIP	0.033UF	10.00%	50V
C6505	1-126-947-11	ELECT	47UF	20.00%	25V
C6506	1-126-947-11	ELECT	47UF	20.00%	25V
C6508	1-136-495-11	FILM	0.068UF	5.00%	50V
C6510	1-126-947-11	ELECT	47UF	20.00%	25V
C6511	1-126-947-11	ELECT	47UF	20.00%	25V
C6512	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6513	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6514	1-126-964-11	ELECT	10UF	20.00%	50V
C6515	1-107-714-11	ELECT	10UF	20.00%	50V
C6516	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V

REF NO.	PART NO.	DESCRIPTION		REMARK	
C6517	1-107-714-11	ELECT	10UF	20.00%	50V
C6518	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V

<CONNECTOR>

REF NO.	PART NO.	DESCRIPTION
CN6100	1-793-498-11	CONNECTOR, BOARD TO BOARD 50P
CN6101	* 1-564-523-11	PLUG, CONNECTOR 8P
CN6102	* 1-564-518-11	PLUG, CONNECTOR 3P

<DIODE>

REF NO.	PART NO.	DESCRIPTION			
D6102	8-719-987-87	ERA85-009			
D6103	8-719-911-19	1SS119-25			
D6104	8-719-911-19	1SS119-25			
D6105	8-719-063-73	DIODE D1NL20U-TR			
D6201	8-719-081-97	MMDL914T1			
D6201	8-719-404-50	MA111-TX			
D6202	8-719-081-97	MMDL914T1			
D6203	8-719-081-97	MMDL914T1			
D6204	8-719-081-97	MMDL914T1			
D6207	1-218-851-11	METAL CHIP	1.5K	0.5%	1/10W
D6208	8-719-081-97	MMDL914T1			
D6209	8-719-081-97	MMDL914T1			
D6210	1-216-295-91	SHORT CHIP	0		
D6211	1-216-295-91	SHORT CHIP	0		
D6212	8-719-081-97	MMDL914T1			
D6213	8-719-081-97	MMDL914T1			
D6214	8-719-081-97	MMDL914T1			
D6215	1-216-295-91	SHORT CHIP	0		
D6216	1-216-295-91	SHORT CHIP	0		
D6217	1-216-295-91	SHORT CHIP	0		
D6218	1-216-295-91	SHORT CHIP	0		
D6219	1-216-295-91	SHORT CHIP	0		
D6401	8-719-081-97	MMDL914T1			
D6402	8-719-081-97	MMDL914T1			
D6403	8-719-081-97	MMDL914T1			
D6404	1-216-295-91	SHORT CHIP	0		
D6405	8-719-081-97	MMDL914T1			
D6409	8-719-081-97	MMDL914T1			
D6411	8-719-081-97	MMDL914T1			
D6413	8-719-081-97	MMDL914T1			
D6423	8-719-081-97	MMDL914T1			
D6424	1-216-295-91	SHORT CHIP	0		
D6425	8-719-988-61	1SS355TE-17			
D6426	8-719-988-61	1SS355TE-17			
D6427	8-719-988-61	1SS355TE-17			
D6428	8-719-081-97	MMDL914T1			
D6430	8-719-081-97	MMDL914T1			
D6501	8-719-081-97	MMDL914T1			
D6502	8-719-081-97	MMDL914T1			
D6503	8-719-988-61	1SS355TE-17			
D6504	8-719-988-61	1SS355TE-17			
D6505	8-719-988-61	1SS355TE-17			

<IC>

REF NO.	PART NO.	DESCRIPTION
IC6100	6-701-598-01	IC UPC5023CS-184
IC6201	8-759-659-67	LA6393DLL
IC6202	8-759-231-53	TA7805S
IC6205	8-752-072-81	CXA1875AM
IC6206	8-759-700-69	NJM79L12A
IC6401	8-759-659-67	LA6393DLL
IC6402	6-701-847-01	IC UPC1898CT-A
IC6501	8-759-822-38	LA6510

<CHIP CONDUCTOR>

REF NO.	PART NO.	DESCRIPTION	
JR6100	1-216-295-91	SHORT CHIP	0
JR6101	1-216-295-91	SHORT CHIP	0
JR6102	1-216-295-91	SHORT CHIP	0
JR6103	1-216-295-91	SHORT CHIP	0
JR6200	1-216-295-91	SHORT CHIP	0
JR6201	1-216-295-91	SHORT CHIP	0
JR6202	1-216-295-91	SHORT CHIP	0
JR6204	1-216-295-91	SHORT CHIP	0
JR6401	1-216-295-91	SHORT CHIP	0
JR6402	1-216-295-91	SHORT CHIP	0
JR6403	1-216-295-91	SHORT CHIP	0
JR6404	1-216-295-91	SHORT CHIP	0
JR6405	1-216-295-91	SHORT CHIP	0
JR6406	1-216-295-91	SHORT CHIP	0
JR6407	1-216-295-91	SHORT CHIP	0
JR6408	1-216-295-91	SHORT CHIP	0
JR6409	1-216-295-91	SHORT CHIP	0
JR6410	1-216-295-91	SHORT CHIP	0
JR6411	1-216-295-91	SHORT CHIP	0
JR6413	1-216-295-91	SHORT CHIP	0
JR6414	1-216-295-91	SHORT CHIP	0
JR6416	1-216-295-91	SHORT CHIP	0
JR6417	1-216-295-91	SHORT CHIP	0
JR6418	1-216-295-91	SHORT CHIP	0
JR6420	1-216-295-91	SHORT CHIP	0
JR6421	1-216-295-91	SHORT CHIP	0
JR6422	1-216-295-91	SHORT CHIP	0
JR6423	1-216-295-91	SHORT CHIP	0
JR6424	1-216-295-91	SHORT CHIP	0
JR6425	1-216-295-91	SHORT CHIP	0
JR6426	1-216-295-91	SHORT CHIP	0

<COIL>

REF NO.	PART NO.	DESCRIPTION	
L6101	1-416-920-11	INDUCTOR	10MH
L6102	1-406-989-21	INDUCTOR	10MH
L6201	1-412-537-31	INDUCTOR	100UH

<TRANSISTOR>

REF NO.	PART NO.	DESCRIPTION
Q6001	1-801-806-11	TR DTC144EKA (KV-DR29M39/M69/M89)
Q6001	8-729-421-19	UN2213 (KV-DR29M63)
Q6002	8-729-422-33	2SD601A-Q-TX (KV-DR29M39/M69/M89)
Q6002	8-729-010-25	MSD601-RT1 (KV-DR29M63)
Q6103	8-729-140-93	2SB733-34
Q6104	8-729-046-33	IRF720-LF49
Q6105	8-729-216-22	2SA1162-G
Q6106	8-729-010-25	MSD601-RT1
Q6107	8-729-804-87	2SB1142-T
Q6108	8-729-010-25	MSD601-RT1
Q6201	8-729-010-25	MSD601-RT1
Q6202	8-729-010-25	MSD601-RT1
Q6203	8-729-010-25	MSD601-RT1
Q6205	8-729-010-25	MSD601-RT1
Q6206	8-729-010-05	MSB709-RT1

D5

REF NO.	PART NO.	DESCRIPTION		REMARK	
Q6207	8-729-421-19	UN2213			
Q6208	8-729-216-22	2SA1162-G			
Q6209	8-729-010-05	MSB709-RT1			
Q6212	8-729-216-22	2SA1162-G			
Q6213	8-729-010-25	MSD601-RT1			
Q6215	8-729-010-25	MSD601-RT1			
Q6216	8-729-216-22	2SA1162-G			
Q6218	8-729-010-25	MSD601-RT1			
Q6219	8-729-422-33	2SD601A-Q-TX (KV-DR29M39/M69/M89)			
Q6219	8-729-010-25	MSD601-RT1 (KV-DR29M63)			
Q6220	8-729-010-25	MSD601-RT1			
Q6221	8-729-010-25	MSD601-RT1			
Q6222	8-729-216-22	2SA1162-G			
Q6401	8-729-010-25	MSD601-RT1			
Q6402	8-729-216-22	2SA1162-G			
Q6409	8-729-216-22	2SA1162-G			
Q6410	8-729-010-25	MSD601-RT1			
Q6412	8-729-216-22	2SA1162-G			
Q6413	8-729-010-25	MSD601-RT1			
Q6414	8-729-216-22	2SA1162-G			
Q6415	8-729-010-25	MSD601-RT1			
Q6417	8-729-010-25	MSD601-RT1			
Q6418	8-729-216-22	2SA1162-G			
Q6420	8-729-216-22	2SA1162-G			
Q6422	8-729-216-22	2SA1162-G			
Q6423	8-729-216-22	2SA1162-G			
Q6424	8-729-010-25	MSD601-RT1			
Q6425	8-729-010-25	MSD601-RT1			
Q6437	8-729-010-25	MSD601-RT1			
Q6438	8-729-216-22	2SA1162-G			
Q6440	8-729-422-33	2SD601A-Q-TX (KV-DR29M39/M69/M89)			
Q6440	8-729-010-25	MSD601-RT1 (KV-DR29M63)			
Q6441	8-729-216-22	2SA1162-G			
Q6501	8-729-216-22	2SA1162-G			
Q6502	8-729-216-22	2SA1162-G			
Q6503	8-729-010-25	MSD601-RT1			
Q6504	8-729-010-25	MSD601-RT1			
Q6505	8-729-010-25	MSD601-RT1			
Q6506	8-729-421-22	UN2211			
Q6507	8-729-421-22	UN2211			
Q6508	8-729-422-33	2SD601A-Q-TX (KV-DR29M39/M69/M89)			
Q6508	8-729-010-25	MSD601-RT1 (KV-DR29M63)			
Q6509	8-729-010-25	MSD601-RT1			
Q6510	8-729-216-22	2SA1162-G			
		<RESISTOR>			
R6001	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6002	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6003	1-216-025-11	RES-CHIP	100	5%	1/10W
R6006	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6007	1-216-097-11	RES-CHIP	100K	5%	1/10W
R6102	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6104	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6107	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R6108	1-208-796-11	METAL CHIP	3.9K	0.5%	1/10W
R6109	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6111	1-208-808-11	METAL CHIP	12K	0.5%	1/10W
R6112	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6113	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6114	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R6115	1-216-057-00	RES-CHIP	2.2K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R6116	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6117	1-208-778-11	METAL CHIP	680	0.5%	1/10W
R6118	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6119	1-216-025-11	RES-CHIP	100	5%	1/10W
R6120	1-208-818-11	METAL CHIP	33K	0.5%	1/10W
R6121	1-216-041-00	RES-CHIP	470	5%	1/10W
R6122	1-215-860-11	METAL OXIDE	33	5%	1W
R6127	1-216-025-11	RES-CHIP	100	5%	1/10W
R6128	1-208-792-11	METAL CHIP	2.7K	0.5%	1/10W
R6129	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R6130	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6131	1-208-812-11	METAL CHIP	18K	0.5%	1/10W
R6132	1-216-025-11	RES-CHIP	100	5%	1/10W
R6133	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R6136	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6137	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6138	1-208-788-11	METAL CHIP	1.8K	0.5%	1/10W
R6140	1-216-025-11	RES-CHIP	100	5%	1/10W
R6141	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6142	1-208-792-11	METAL CHIP	2.7K	0.5%	1/10W
R6143	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6148	1-208-820-11	METAL CHIP	39K	0.5%	1/10W
R6201	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6203	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6204	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6205	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6206	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6207	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6208	1-216-639-11	METAL CHIP	330	0.5%	1/10W
R6209	1-216-037-00	RES-CHIP	330	5%	1/10W
R6210	1-208-812-11	METAL CHIP	18K	0.5%	1/10W
R6213	1-208-818-11	METAL CHIP	33K	0.5%	1/10W
R6215	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6216	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6217	1-216-295-91	SHORT CHIP	0		
R6218	1-216-125-00	RES-CHIP	1.5M	5%	1/10W
R6219	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R6220	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6221	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R6222	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6224	1-216-085-91	RES-CHIP	33K	5%	1/10W
R6225	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6227	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6230	1-208-846-11	METAL CHIP	470K	0.5%	1/10W
R6232	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6234	1-216-097-11	RES-CHIP	100K	5%	1/10W
R6237	1-249-377-11	CARBON	0.47	5%	1/4W
R6248	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6249	1-208-804-11	METAL CHIP	8.2K	0.5%	1/10W
R6250	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6253	1-216-025-11	RES-CHIP	100	5%	1/10W
R6254	1-216-025-11	RES-CHIP	100	5%	1/10W
R6255	1-216-025-11	RES-CHIP	100	5%	1/10W
R6256	1-216-025-11	RES-CHIP	100	5%	1/10W
R6266	1-216-017-91	RES-CHIP	47	5%	1/10W
R6267	1-216-017-91	RES-CHIP	47	5%	1/10W
R6270	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6271	1-218-760-11	METAL CHIP	220K	0.5%	1/10W
R6272	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6273	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6274	1-249-377-11	CARBON	0.47	5%	1/4W
R6278	1-216-057-00	RES-CHIP	2.2K	5%	1/10W

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REF NO.	PART NO.	DESCRIPTION		REMARK	
R6281	1-208-832-11	METAL CHIP	120K	0.5%	1/10W
R6283	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6286	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6287	1-216-095-00	RES-CHIP	82K	5%	1/10W
R6288	1-216-097-11	RES-CHIP	100K	5%	1/10W
R6289	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6290	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6291	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6292	1-216-081-00	RES-CHIP	22K	5%	1/10W
R6293	1-216-113-00	RES-CHIP	470K	5%	1/10W
R6294	1-216-025-11	RES-CHIP	100	5%	1/10W
R6295	1-216-025-11	RES-CHIP	100	5%	1/10W
R6297	1-208-824-11	METAL CHIP	56K	0.5%	1/10W
R6298	1-208-824-11	METAL CHIP	56K	0.5%	1/10W
R6401	1-216-295-91	SHORT CHIP	0		
R6402	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R6403	1-208-840-11	METAL CHIP	270K	0.5%	1/10W
R6404	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6405	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6406	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6407	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6408	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6411	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6412	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6413	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R6414	1-216-025-11	RES-CHIP	100	5%	1/10W
R6415	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6416	1-216-295-91	SHORT CHIP	0		
R6417	1-216-295-91	SHORT CHIP	0		
R6419	1-216-025-11	RES-CHIP	100	5%	1/10W
R6422	1-216-121-11	RES-CHIP	1M	5%	1/10W
R6423	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6424	1-216-295-91	SHORT CHIP	0		
R6428	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6429	1-208-812-11	METAL CHIP	18K	0.5%	1/10W
R6430	1-214-913-00	METAL	100K	1%	1/2W
R6431	1-216-113-00	RES-CHIP	470K	5%	1/10W
R6432	1-216-081-00	RES-CHIP	22K	5%	1/10W
R6433	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R6434	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R6435	1-216-295-91	SHORT CHIP	0		
R6436	1-214-921-00	METAL	220K	1%	1/2W
R6437	1-216-295-91	SHORT CHIP	0		
R6439	1-216-097-11	RES-CHIP	100K	5%	1/10W
R6440	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6441	1-216-097-11	RES-CHIP	100K	5%	1/10W
R6445	1-216-295-91	SHORT CHIP	0		
R6446	1-216-295-91	SHORT CHIP	0		
R6447	1-214-905-11	METAL	47K	1%	1/2W
R6448	1-214-917-00	METAL	150K	1%	1/2W
R6449	1-216-295-91	SHORT CHIP	0		
R6450	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6452	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R6453	1-260-119-11	CARBON	47K	5%	1/2W
R6455	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6456	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6457	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6459	1-216-295-91	SHORT CHIP	0		
R6461	1-216-097-11	RES-CHIP	100K	5%	1/10W
R6462	1-218-760-11	METAL CHIP	220K	0.5%	1/10W
R6463	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R6464	1-208-846-11	METAL CHIP	470K	0.5%	1/10W
R6467	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6468	1-216-295-91	SHORT CHIP	0		
R6469	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6471	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6472	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6473	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6474	1-214-905-11	METAL	47K	1%	1/2W
R6475	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R6476	1-216-295-91	SHORT CHIP	0		
R6477	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R6480	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6481	1-218-760-11	METAL CHIP	220K	0.5%	1/10W
R6482	1-208-844-11	METAL CHIP	390K	0.5%	1/10W
R6483	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6484	1-216-097-11	RES-CHIP	100K	5%	1/10W
R6487	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6489	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6490	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6491	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6492	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6493	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R6494	1-216-097-11	RES-CHIP	100K	5%	1/10W
R6495	1-216-097-11	RES-CHIP	100K	5%	1/10W
R6496	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6497	1-216-081-00	RES-CHIP	22K	5%	1/10W
R6498	1-216-295-91	SHORT CHIP	0		
R6499	1-216-295-91	SHORT CHIP	0		
R6500	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6508	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R6509	1-208-840-11	METAL CHIP	270K	0.5%	1/10W
R6510	1-216-085-91	RES-CHIP	33K	5%	1/10W
R6511	1-216-085-91	RES-CHIP	33K	5%	1/10W
R6512	1-249-389-11	CARBON	4.7	5%	1/4W
R6513	1-216-085-91	RES-CHIP	33K	5%	1/10W
R6514	1-208-840-11	METAL CHIP	270K	0.5%	1/10W
R6515	1-249-389-11	CARBON	4.7	5%	1/4W
R6516	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R6517	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6518	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6519	1-208-812-11	METAL CHIP	18K	0.5%	1/10W
R6520	1-208-784-11	METAL CHIP	1.2K	0.5%	1/10W
R6521	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R6522	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R6523	1-215-429-00	METAL	2.2K	1%	1/4W
R6525	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6526	1-208-808-11	METAL CHIP	12K	0.5%	1/10W
R6527	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R6528	1-216-639-11	METAL CHIP	330	0.5%	1/10W
R6529	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6530	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6531	1-216-025-11	RES-CHIP	100	5%	1/10W
R6532	1-208-804-11	METAL CHIP	8.2K	0.5%	1/10W
R6533	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6534	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6535	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6536	1-208-812-11	METAL CHIP	18K	0.5%	1/10W
R6537	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6538	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6539	1-208-820-11	METAL CHIP	39K	0.5%	1/10W

H1 F1 D5

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF NO.	PART NO.	DESCRIPTION		REMARK	
R6540	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R6541	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6542	1-208-812-11	METAL CHIP	18K	0.5%	1/10W
R6543	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R6544	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6545	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6546	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6551	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6552	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6553	1-216-077-91	RES-CHIP	15K	5%	1/10W
R6554	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6555	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R6557	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6558	1-208-826-11	METAL CHIP	68K	0.5%	1/10W
R6602	1-216-295-91	SHORT CHIP	0		
R6604	1-208-850-11	METAL CHIP	680K	0.5%	1/10W
R6608	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R6609	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R6610	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6611	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R6612	1-216-295-91	SHORT CHIP	0		
R6614	1-216-295-91	SHORT CHIP	0		
R6618	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
R6620	1-216-295-91	SHORT CHIP	0		

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* A-1400-490-A F1 BOARD MOUNTED (KV-DR29M39)
* A-1400-691-A F1 BOARD MOUNTED (KV-DR29M63)
* A-1400-746-A F1 BOARD MOUNTED (KV-DR29M69/DR29M89)
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REF NO.	PART NO.	DESCRIPTION		REMARK	
	1-533-223-11	HOLDER, FUSE			
	* 4-374-846-01	COVER, CAPACITOR, CAP TYPE			
		<CAPACITOR>			
C1601	⚠ 1-104-708-51	MYLAR	0.47UF	20.00%	250V
C1602	⚠ 1-109-835-51	MYLAR	0.68UF	20.00%	250V
C1603	⚠ 1-117-703-51	CERAMIC	0.0047UF	99%	250V
		<CONNECTOR>			
CN1601	1-580-843-11	PIN, CONNECTOR (POWER)			
CN1602	1-580-843-11	PIN, CONNECTOR (POWER)			
CN1604	1-695-915-11	TAB (CONTACT)			
		<FUSE>			
F1601	⚠ 1-576-334-11	FUSE, CYLINDERICAL (TIME-LAG)			
		<FERRITE BEAD>			
FB1601	1-410-397-21	FERRITE	1.1UH		
FB1602	1-410-397-21	FERRITE	1.1UH		
FB1603	1-410-397-21	FERRITE	1.1UH		
FB1604	1-410-397-21	FERRITE	1.1UH		

REF NO.	PART NO.	DESCRIPTION		REMARK	
		<RESISTOR>			
R1601	⚠ 1-219-759-91	CARBON	1M	5%	1/2W
		<TRANSFORMER>			
T1601	⚠ 1-433-900-21	TRANSFORMER, LINE FILTER			
T1602	⚠ 1-433-900-21	TRANSFORMER, LINE FILTER			
		<VARISTOR>			
VDR161	1-803-830-11	VARISTOR (ERZV14D621)			

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* A-1400-491-A H1 BOARD MOUNTED (KV-DR29M39/DR29M69/DR29M89)
* A-1400-692-A H1 BOARD MOUNTED (KV-DR29M63)
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REF NO.	PART NO.	DESCRIPTION		REMARK	
		<CAPACITOR>			
C1910	1-126-947-11	ELECT	47UF	20.00%	16V
C1930	1-136-153-00	FILM	0.01UF	5.00%	50V
C1932	1-136-153-00	FILM	0.01UF	5.00%	50V
C1935	1-102-824-00	CERAMIC	470PF	5.00%	50V
C1938	1-102-824-00	CERAMIC	470PF	5.00%	50V
		<CONNECTOR>			
CN1905	* 1-764-333-11	PLUG, CONNECTOR 10P			
CN1906	1-564-509-11	PLUG, CONNECTOR 6P			
CN1932	* 1-564-509-11	PLUG, CONNECTOR 6P			
CN1934	* 1-764-333-11	PLUG, CONNECTOR 10P			
		<DIODE>			
D1905	8-719-070-16	NNCD9.1A-T1			
D1907	8-719-070-16	NNCD9.1A-T1			
D1930	8-719-929-15	HZS9.1NB2			
D1944	8-719-070-16	NNCD9.1A-T1			
D1945	8-719-911-19	1SS119-25			
D1946	8-719-911-19	1SS119-25			
		<JACK>			
J1931	1-770-786-11	JACK			
J1932	1-784-646-11	TERMINAL, S			
J1933	1-770-329-11	JACK, PIN 3P			
		<COIL>			
L1931	1-414-856-11	INDUCTOR	10UH		
L1932	1-414-856-11	INDUCTOR	10UH		
		<TRANSISTOR>			
Q1901	8-729-030-02	DTC144ESA			
Q1902	8-729-030-02	DTC144ESA			

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

H1 H2 J P

REF NO.	PART NO.	DESCRIPTION			REMARK
		<RESISTOR>			
R1911	1-249-411-11	CARBON	330	5%	1/4W
R1913	1-249-429-11	CARBON	10K	5%	1/4W
R1914	1-249-411-11	CARBON	330	5%	1/4W
R1915	1-249-429-11	CARBON	10K	5%	1/4W
R1916	1-249-401-11	CARBON	47	5%	1/4W
R1917	1-247-807-31	CARBON	100	5%	1/4W
R1920	1-247-807-31	CARBON	100	5%	1/4W
R1921	1-247-807-31	CARBON	100	5%	1/4W
R1933	1-247-895-91	CARBON	470K	5%	1/4W
R1934	1-247-807-31	CARBON	100	5%	1/4W
R1935	1-247-807-31	CARBON	100	5%	1/4W
R1936	1-247-895-91	CARBON	470K	5%	1/4W
R1952	1-249-421-11	CARBON	2.2K	5%	1/4W
R1970	1-249-426-11	CARBON	5.6K	5%	1/4W
R1971	1-249-413-11	CARBON	470	5%	1/4W
R1972	1-249-417-11	CARBON	1K	5%	1/4W
R1973	1-249-420-11	CARBON	1.8K	5%	1/4W
R1974	1-247-843-11	CARBON	3.3K	5%	1/4W
		<SWITCH>			
S1972	1-692-431-21	SWITCH, TACTILE			
S1973	1-692-431-21	SWITCH, TACTILE			
S1974	1-692-431-21	SWITCH, TACTILE			
S1975	1-692-431-21	SWITCH, TACTILE			
S1976	1-692-431-21	SWITCH, TACTILE			
S1977	1-692-431-21	SWITCH, TACTILE			
S1978	1-692-431-21	SWITCH, TACTILE			

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REF NO.	PART NO.	DESCRIPTION			REMARK
	* A-1400-492-A	H2 BOARD MOUNTED (KV-DR29M39//DR29M69/DR29M89)			
	* A-1400-693-A	H2 BOARD MOUNTED (KV-DR29M63)			
		*********************************			
	* 4-055-304-01	HOLDER, LED			
		<CAPACITOR>			
C1911	1-126-947-11	ELECT	47UF	20.00%	16V
C1912	1-102-824-00	CERAMIC	470PF	5.00%	50V
		<CONNECTOR>			
CN1651	* 1-580-844-11	PIN, CONNECTOR (POWER)			
CN1652	* 1-580-844-11	PIN, CONNECTOR (POWER)			
CN1907	* 1-564-521-11	PLUG, CONNECTOR 6P			
		<DIODE>			
D1906	8-719-083-18	DIODE SPB-25MVWF			
		<IC>			
IC1901	8-742-134-01	SBX1981-51RP			

REF NO.	PART NO.	DESCRIPTION			REMARK
		<SWITCH>			
S1651	⚠ 1-571-433-31	SWITCH, PUSH (AC POWER)			

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REF NO.	PART NO.	DESCRIPTION			REMARK
	* A-1400-500-A	J BOARD MOUNTED (KV-DR29M39/DR29M69/DR29M89)			
	* A-1400-695-A	J BOARD MOUNTED (KV-DR29M63)			
		*******************************			
		<CAPACITOR>			
C2410	1-126-967-11	ELECT	47UF	20.00%	50V
C2411	1-126-967-11	ELECT	47UF	20.00%	50V
C2412	1-126-967-11	ELECT	47UF	20.00%	50V
C2413	1-102-112-00	CERAMIC	330PF	10.00%	50V
C2414	1-102-112-00	CERAMIC	330PF	10.00%	50V
C2418	1-126-960-11	ELECT	1UF	20.00%	50V
C2419	1-126-960-11	ELECT	1UF	20.00%	50V
		<CONNECTOR>			
CN2410	* 1-564-523-11	PLUG, CONNECTOR 8P			
		<DIODE>			
D2410	8-719-929-15	HZS9.1NB2			
D2411	8-719-929-15	HZS9.1NB2			
D2412	8-719-929-15	HZS9.1NB2			
D2414	8-719-929-15	HZS9.1NB2			
D2415	8-719-929-15	HZS9.1NB2			
		<JACK>			
J2410	1-784-623-11	BLOCK, PIN JACK 5P			
		<RESISTOR>			
R2410	1-247-804-11	CARBON	75	5%	1/4W
R2411	1-247-804-11	CARBON	75	5%	1/4W
R2412	1-247-804-11	CARBON	75	5%	1/4W
R2414	1-247-887-00	CARBON	220K	5%	1/4W
R2415	1-247-807-31	CARBON	100	5%	1/4W
R2417	1-247-887-00	CARBON	220K	5%	1/4W
R2418	1-247-807-31	CARBON	100	5%	1/4W

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REF NO.	PART NO.	DESCRIPTION			REMARK
	* A-1300-299-A	P BOARD COMPLETE (KV-DR29M39/DR29M69/DR29M89)			
		*******************************			
		<CAPACITOR>			
C8801	1-104-665-11	ELECT	100UF	20.00%	10V
C8802	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8803	1-162-915-11	CERAMIC CHIP	10PF	0.50PF	50V
C8804	1-162-915-11	CERAMIC CHIP	10PF	0.50PF	50V
C8805	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V

P

REF NO.	PART NO.	DESCRIPTION			REMARK
C8806	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8807	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8808	1-126-967-11	ELECT	47UF	20.00%	50V
C8809	1-126-967-11	ELECT	47UF	20.00%	50V
C8810	1-104-665-11	ELECT	100UF	20.00%	10V
C8811	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8812	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8813	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8814	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8815	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8816	1-104-665-11	ELECT	100UF	20.00%	10V
C8817	1-104-665-11	ELECT	100UF	20.00%	10V
C8818	1-104-665-11	ELECT	100UF	20.00%	10V
C8819	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8820	1-104-665-11	ELECT	100UF	20.00%	10V
C8821	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8822	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8823	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8824	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C8825	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C8826	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8827	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8828	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8829	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8830	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8831	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8832	1-162-926-11	CERAMIC CHIP	82PF	5.00%	50V
C8834	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C8835	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
	<CONNECTOR>				
CN8801	1-793-496-11	CONNECTOR, BOARD TO BOARD 20P			
	<DIODE>				
D8801	8-719-081-97	MMDL914T1			
	<FILTER>				
FL8802	1-236-071-11	ENCAPSULATED COMPONENT			
FL8803	1-236-071-11	ENCAPSULATED COMPONENT			
FL8804	1-236-071-11	ENCAPSULATED COMPONENT			
FL8805	1-236-071-11	ENCAPSULATED COMPONENT			
FL8808	1-236-071-11	ENCAPSULATED COMPONENT			
	<IC>				
IC8801	8-759-830-24	SDA9588XB23			
IC8802	8-759-460-72	BA033FP-E2			
	<COIL>				
L8801	1-414-856-11	INDUCTOR	10UH		
L8806	1-412-537-31	INDUCTOR	100UH		
L8807	1-414-856-11	INDUCTOR	10UH		
L8809	1-408-412-00	INDUCTOR	18UH		
	<TRANSISTOR>				
Q8801	8-729-010-05	MSB709-RT1			
Q8802	8-729-010-05	MSB709-RT1			

REF NO.	PART NO.	DESCRIPTION			REMARK
Q8803	8-729-010-05	MSB709-RT1			
Q8804	8-729-010-05	MSB709-RT1			
Q8805	8-729-010-05	MSB709-RT1			
Q8806	8-729-230-49	2SC2712-YG			
Q8807	8-729-230-49	2SC2712-YG			
Q8808	8-729-010-05	MSB709-RT1			
Q8809	8-729-010-05	MSB709-RT1			
Q8810	8-729-010-05	MSB709-RT1			
Q8811	8-729-010-05	MSB709-RT1			
Q8812	8-729-230-49	2SC2712-YG			
	<RESISTOR>				
R8801	1-216-089-91	RES-CHIP	47K	5%	1/10W
R8802	1-216-089-91	RES-CHIP	47K	5%	1/10W
R8803	1-216-025-11	RES-CHIP	100	5%	1/10W
R8804	1-216-025-11	RES-CHIP	100	5%	1/10W
R8805	1-216-295-91	SHORT CHIP	0		
R8806	1-216-041-00	RES-CHIP	470	5%	1/10W
R8807	1-216-041-00	RES-CHIP	470	5%	1/10W
R8808	1-216-041-00	RES-CHIP	470	5%	1/10W
R8809	1-216-025-11	RES-CHIP	100	5%	1/10W
R8810	1-216-025-11	RES-CHIP	100	5%	1/10W
R8811	1-216-639-11	METAL CHIP	330	0.5%	1/10W
R8812	1-216-025-11	RES-CHIP	100	5%	1/10W
R8815	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8816	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8817	1-216-041-00	RES-CHIP	470	5%	1/10W
R8818	1-216-025-11	RES-CHIP	100	5%	1/10W
R8819	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8820	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8821	1-216-025-11	RES-CHIP	100	5%	1/10W
R8822	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8823	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8824	1-216-025-11	RES-CHIP	100	5%	1/10W
R8825	1-216-041-00	RES-CHIP	470	5%	1/10W
R8826	1-216-025-11	RES-CHIP	100	5%	1/10W
R8827	1-216-025-11	RES-CHIP	100	5%	1/10W
R8828	1-216-025-11	RES-CHIP	100	5%	1/10W
R8829	1-216-025-11	RES-CHIP	100	5%	1/10W
R8830	1-216-025-11	RES-CHIP	100	5%	1/10W
R8831	1-216-089-91	RES-CHIP	47K	5%	1/10W
R8832	1-216-089-91	RES-CHIP	47K	5%	1/10W
R8833	1-216-089-91	RES-CHIP	47K	5%	1/10W
R8834	1-216-089-91	RES-CHIP	47K	5%	1/10W
R8835	1-216-047-91	RES-CHIP	820	5%	1/10W
R8836	1-216-047-91	RES-CHIP	820	5%	1/10W
R8837	1-216-025-11	RES-CHIP	100	5%	1/10W
R8838	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R8839	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R8840	1-216-025-11	RES-CHIP	100	5%	1/10W
R8841	1-216-025-11	RES-CHIP	100	5%	1/10W
R8842	1-216-097-11	RES-CHIP	100K	5%	1/10W
R8843	1-216-041-00	RES-CHIP	470	5%	1/10W
R8844	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8845	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8846	1-216-041-00	RES-CHIP	470	5%	1/10W
R8847	1-216-121-11	RES-CHIP	1M	5%	1/10W
R8848	1-216-073-91	RES-CHIP	10K	5%	1/10W
R8849	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8850	1-216-051-00	RES-CHIP	1.2K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION			REMARK
		<CRYSTAL>			
X8801	1-781-946-21	VIBRATOR, CRYSTAL			

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	A-1400-711-A	V2 BOARD MOUNTED (KV-DR29M39/DR29M69/DR29M89)			

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REF NO.	PART NO.	DESCRIPTION			REMARK
		<CAPACITOR>			
C5802	1-164-360-11	CERAMIC CHIP	0.1UF		16V
C5805	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C5806	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C5815	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C5816	1-126-963-11	ELECT	4.7UF	20.00%	50V
C5817	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C5818	1-162-924-11	CERAMIC CHIP	56PF	5.00%	50V
C5820	1-162-924-11	CERAMIC CHIP	56PF	5.00%	50V
C5821	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C5822	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C5823	1-126-963-11	ELECT	4.7UF	20.00%	50V
C5826	1-126-963-11	ELECT	4.7UF	20.00%	50V
C5830	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C5831	1-126-933-11	ELECT	100UF	20.00%	16V
C5835	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C5837	1-126-933-11	ELECT	100UF	20.00%	16V
C5852	1-162-995-11	CERAMIC CHIP	0.022UF		50V
C5853	1-126-963-11	ELECT	4.7UF	20.00%	50V
		<CONNECTOR>			
CN5801 *	1-774-812-11	CONNECTOR, BOARD TO BOARD 7P			
CN5803 *	1-774-812-11	CONNECTOR, BOARD TO BOARD 7P			
		<DIODE>			
D5802	8-719-050-37	DIODE M1MA152WA-T1			
D5803	8-719-045-99	RD2.2M-T1B			
		<FERRITE BEAD>			
FB5801	1-410-397-21	FERRITE	1.1UH		
FB5803	1-410-397-21	FERRITE	1.1UH		
FB5804	1-410-397-21	FERRITE	1.1UH		
FB5805	1-410-397-21	FERRITE	1.1UH		
		<IC>			
IC5801	6-700-607-01	IC SAA5264PS/M3			
IC5802	8-759-828-44	NJM2870F33(TE2)			
		<CHIP CONDUCTOR>			
JR5802	1-216-295-91	SHORT CHIP	0		
JR5803	1-216-295-91	SHORT CHIP	0		
JR5804	1-216-295-91	SHORT CHIP	0		
JR5805	1-216-295-91	SHORT CHIP	0		
JR5811	1-216-041-00	RES-CHIP	470	5%	1/10W

REF NO.	PART NO.	DESCRIPTION			REMARK
JR5812	1-216-041-00	RES-CHIP	470	5%	1/10W
JR5813	1-216-041-00	RES-CHIP	470	5%	1/10W
		<TRANSISTOR>			
Q5801	8-729-230-49	2SC2712-YG			
Q5803	8-729-230-49	2SC2712-YG			
Q5810	8-729-230-49	2SC2712-YG			
		<RESISTOR>			
R5821	1-216-082-00	RES-CHIP	24K	5%	1/10W
R5822	1-216-025-11	RES-CHIP	100	5%	1/10W
R5828	1-216-025-11	RES-CHIP	100	5%	1/10W
R5829	1-216-025-11	RES-CHIP	100	5%	1/10W
R5830	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5831	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5839	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R5841	1-216-025-11	RES-CHIP	100	5%	1/10W
R5842	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5843	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5845	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5846	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5851	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5853	1-216-830-11	RES-CHIP	5.6K	5%	1/10W
R5857	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5859	1-216-029-00	RES-CHIP	150	5%	1/10W
R5860	1-216-029-00	RES-CHIP	150	5%	1/10W
R5862	1-216-029-00	RES-CHIP	150	5%	1/10W
R5864	1-216-041-00	RES-CHIP	470	5%	1/10W
R5866	1-216-449-11	METAL OXIDE	56	5%	2W
R5871	1-216-037-00	RES-CHIP	330	5%	1/10W
R5878	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5884	1-216-295-91	SHORT CHIP	0		
R5892	1-216-025-11	RES-CHIP	100	5%	1/10W
R5899	1-216-025-11	RES-CHIP	100	5%	1/10W
		<CRYSTAL>			
X5801	1-578-774-11	VIBRATOR, CRYSTAL			

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	A-1400-499-A	VM BOARD MOUNTED (KV-DR29M39/DR29M69/DR29M89)			
	A-1400-694-A	VM BOARD MOUNTED (KV-DR29M63)			

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REF NO.	PART NO.	DESCRIPTION			REMARK
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		<CAPACITOR>			
C5401	1-126-935-11	ELECT	470UF	20.00%	16V
C5402	1-113-619-11	CERAMIC CHIP	0.47UF		10V
C5403	1-126-935-11	ELECT	470UF	20.00%	6.3V
C5405	1-126-933-11	ELECT	100UF	20.00%	16V
C5406	1-126-935-11	ELECT	470UF	20.00%	6.3V
C5407	1-107-364-11	MYLAR	0.01UF	10.00%	200V
C5408	1-107-364-11	MYLAR	0.01UF	10.00%	200V
C5409	1-107-649-11	ELECT	2.2UF	20.00%	250V
C5410	1-130-471-00	MYLAR	0.001UF	5.00%	50V
C5411	1-130-471-00	MYLAR	0.001UF	5.00%	50V

VM

REF NO.	PART NO.	DESCRIPTION		REMARK	
C5412	1-126-935-11	ELECT	470UF	20.00%	16V
C5413	1-107-648-91	ELECT	100UF	20.00%	160V
C5415	1-104-999-11	MYLAR	0.1UF	10.00%	200V
C5417	1-101-821-00	CERAMIC	0.0022UF		500V
C5418	1-107-638-11	ELECT	33UF	20.00%	160V
		<CONNECTOR>			
CN5401	* 1-770-723-11	CONNECTOR, BOARD TO BOARD 8P			
CN5402	1-764-334-11	PLUG, CONNECTOR 11P			
		<DIODE>			
D5400	8-719-404-50	MA111-TX			
D5401	8-719-510-02	D1NS4 (KV-DR29M39/M69/M89)			
D5401	8-719-210-21	11EQS04 (KV-DR29M63)			
D5402	8-719-911-19	1SS119-25 (KV-DR29M39/M69/M89)			
D5402	8-719-991-33	1SS133T-77 (KV-DR29M63)			
D5403	8-719-911-19	1SS119-25 (KV-DR29M39/M69/M89)			
D5403	8-719-991-33	1SS133T-77 (KV-DR29M63)			
D5404	8-719-911-19	1SS119-25 (KV-DR29M39/M69/M89)			
D5404	8-719-991-33	1SS133T-77 (KV-DR29M63)			
D5405	8-719-110-56	RD22ES-B1			
D5406	8-719-110-56	RD22ES-B1			
		<COIL>			
L5400	1-412-525-31	INDUCTOR	10UH		
		<FILTER>			
LP5401	* 4-042-408-01	PIN, COATING LEAD			
		<TRANSISTOR>			
Q5400	8-729-119-78	2SC2785-HFE			
Q5401	8-729-119-78	2SC2785-HFE			
Q5402	8-729-119-78	2SC2785-HFE			
Q5403	8-729-119-78	2SC2785-HFE			
Q5404	8-729-119-76	2SA1175-HFE			
Q5405	8-729-119-76	2SA1175-HFE			
Q5406	8-729-045-05	2SA2005			
Q5407	8-729-045-04	2SC5511			
		<RESISTOR>			
R5401	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5402	1-249-415-11	CARBON	680	5%	1/4W
R5403	1-247-739-11	CARBON	100	5%	1/2W
R5404	1-249-418-11	CARBON	1.2K	5%	1/4W
R5405	1-216-864-11	SHORT CHIP	0		
R5406	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5407	1-249-401-11	CARBON	47	5%	1/4W
R5408	1-247-807-31	CARBON	100	5%	1/4W
R5409	1-249-409-11	CARBON	220	5%	1/4W
R5410	1-249-401-11	CARBON	47	5%	1/4W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R5411	1-249-401-11	CARBON	47	5%	1/4W
R5412	1-249-429-11	CARBON	10K	5%	1/4W
R5413	1-249-414-11	CARBON	560	5%	1/4W
R5414	1-249-432-11	CARBON	18K	5%	1/4W
R5415	1-247-739-11	CARBON	100	5%	1/2W
R5416	1-249-385-11	CARBON	2.2	5%	1/4W
R5417	1-249-432-11	CARBON	18K	5%	1/4W
R5418	1-249-414-11	CARBON	560	5%	1/4W
R5419	1-249-421-11	CARBON	2.2K	5%	1/4W
R5420	1-249-421-11	CARBON	2.2K	5%	1/4W
R5421	1-249-385-11	CARBON	2.2	5%	1/4W
R5422	1-249-405-11	CARBON	100	5%	1/4W
R5423	1-215-915-11	METAL OXIDE	470	5%	3W
R5424	1-249-395-11	CARBON	15	5%	1/4W
R5425	1-216-017-91	RES-CHIP	47	5%	1/10W
R5427	1-249-395-11	CARBON	15	5%	1/4W

****

ACCESSORIES AND PACKING MATERIALS
****

PART NO.	DESCRIPTION
1-569-008-21	ADAPTOR, CONVERSION 2P (KV-DR29M89)
3-701-910-00	SCREW, SPECIAL (DIA. 3.8X20)
* 4-029-168-01	BAG, PROTECTION (KV-DR29M39/M69/M89)
* 4-054-764-01	BAG,PROTECTION (KV-DR29M63)
4-065-210-01	JOINT
* 4-086-732-02	INDIVIDUAL CARTON (KV-DR29M39/M69/M89)
* 4-088-350-01	INDIVIDUAL CARTON (KV-DR29M63)
* 4-087-147-01	CUSHION, UPPER (KV-DR29M39/M69/M89)
* 4-088-352-01	CUSHION, UPPER (KV-DR29M63)
* 4-087-148-01	CUSHION, LOWER (KV-DR29M39/M69/M89)
* 4-088-353-01	CUSHION, LOWER (KV-DR29M63)
4-088-297-11	MANUAL, INSTRUCTION(KV-DR29M39)
4-088-356-11	MANUAL, INSTRUCTION (KV-DR29M63)
4-088-512-11	MANUAL, INSTRUCTION (KV-DR29M69)
4-088-298-11	MANUAL, INSTRUCTION (KV-DR29M89)
* 4-086-733-01	TRAY (KV-DR29M39/M69/M89)
* 4-088-351-01	TRAY (KV-DR29M63)
4-392-003-11	BAND, HOLD (KV-DR29M39/M69/M89)
4-392-003-21	BAND, HOLDING (KV-DR29M63)
4-392-004-11	CLIP (KV-DR29M39/M69/M89)
4-059-705-01	CLIP (KV-DR29M63)

****

BATTERY COVER REMOTE COMMANDER
****

PART NO.	DESCRIPTION
1-477-313-11	REMOTE COMMANDER (RM-991)
4-079-833-01	BATTERY COVER REMOTE COMMANDER

Sony Corporation
Sony Technology Malaysia Sdn. Bhd.
Visual Products

9-872-304-01

English
© 2002.4

SONY®

4-088-297-**11** (1)

Trinitron Color TV

Operating Instructions

GB

- Before operating the unit, please read this manual thoroughly and retain it for future reference.

FD Trinitron

WEGA

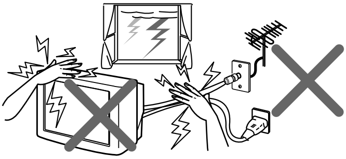
KV-DR34
KV-DR29

© 2002 Sony Corporation

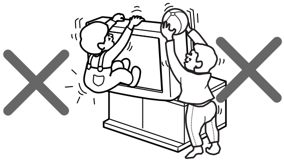
M89
M39

WARNING

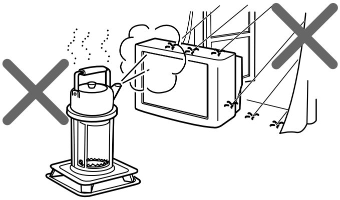
- Dangerously high voltages are present inside the TV.
- TV operating voltage: 110 – 240 V AC. (For New Zealand only: 220 - 240 V AC.)
- Do not plug in the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage and damage to the remote, remove the batteries from the remote if you are not going to use it for several days. If any liquid leaks from the batteries and touches your skin, immediately wash it away with water.



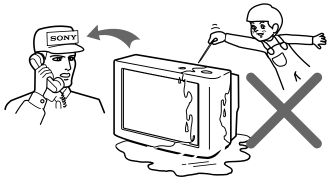
For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.



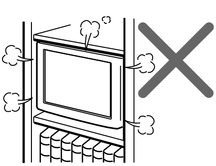
For children’s safety, do not leave children alone with the TV. Do not allow children to climb onto it.



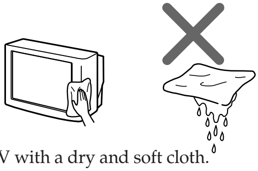
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



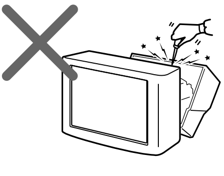
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



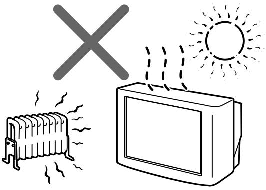
Do not block the ventilation openings of the TV. Do not install the TV in a confined space, such as a bookcase or built-in cabinet.



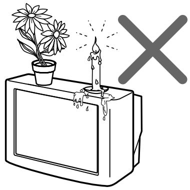
Clean the TV with a dry and soft cloth.
Do not use benzine, thinner, or any other chemicals to clean the TV. Do not attach anything (e.g., adhesive tape, cellophane tape, glue) on the painted cabinet of the TV. Do not scratch the picture tube.



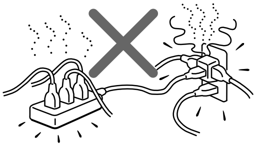
Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



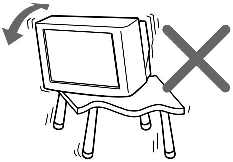
Your TV is recommended for home use only.
Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.



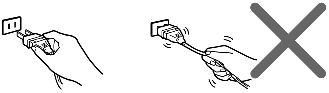
Do not place any objects on the TV.



Do not plug in too many appliances to the same power socket. Do not damage the power cord.



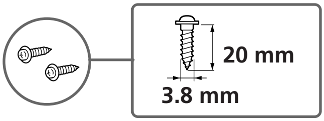
Install the TV on a stable TV stand and floor which can support the TV set weight. Ensure that the TV stand surface is flat and its area is larger than the bottom area of the TV.



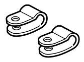
Pull the power cord out by the plug. Do not pull the power cord itself. Even if your TV is turned off, it is still connected to the AC power source (mains) as long as the power cord is plugged in. Unplug the TV before moving it or if you are not going to use it for several days.

Securing the TV

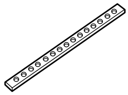
To prevent the TV from falling, use the supplied screws, clamps and band to secure the TV.



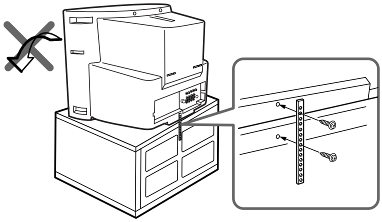
screws



clamps

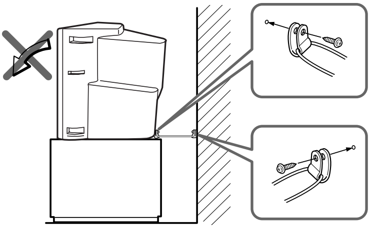


band



Screw the band to the TV stand and to the provided hole at the rear of your TV.

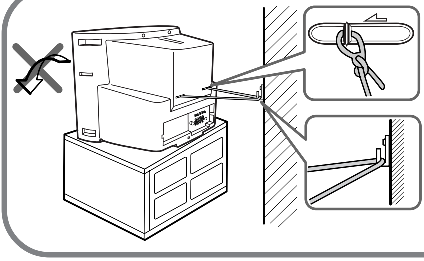
or



(1) Put a cord or chain through the clamps.

(2) Screw one clamp to a wall or pillar and the other clamp to the provided hole at the rear of your TV.

or



(1) Attach each end of a cord or chain to the provided holders at the rear of your TV.

(2) Securely fix the attached cord or chain to a wall or pillar using an attachment which can support the TV set weight.

Note

- Use only the supplied screws. Use of other screws may damage the TV.

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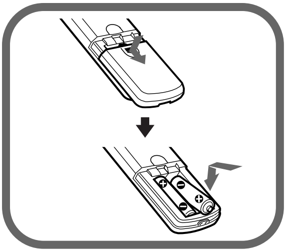
GB

Getting Started

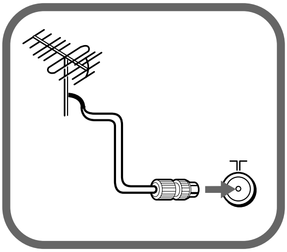


Step 1

Insert the batteries (supplied) into the remote.

Note

- Do not use old or different types of batteries together.

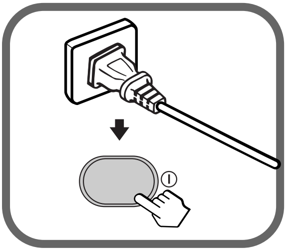


Step 2

Connect the antenna cable (not supplied) to ⫪ (antenna input) at the rear of the TV.

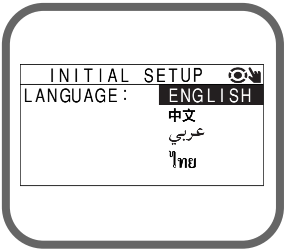
Tip

- You can also connect your TV to other optional components (see page 31).



Step 3

Plug in the power cord, then press ⏻ on the TV to turn it on.

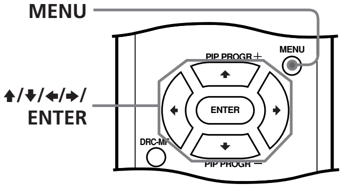


Step 4

Set up the TV by following the instructions of the "INITIAL SETUP"menu (see page 7).

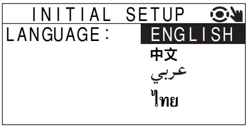
Setting up your TV ("INITIAL SETUP")

When you turn on your TV for the first time, the "INITIAL SETUP" menu will appear. This menu allows you to change the menu language, adjust the picture position and preset the TV channels automatically.



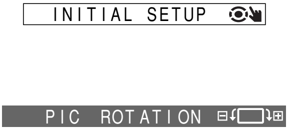
1 Press ↑ or ↓ to select the desired menu language (e.g.,"ENGLISH"), then press ENTER.

The selected menu language appears.



2 Press ↑ or ↓ (or ←/→), then press ENTER to adjust the picture position if it is not aligned to the TV screen.

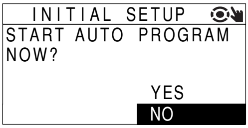
The ⊞ or ⊟ icon on the screen flashes while adjusting.

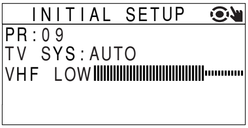


3 Press ↑ or ↓ to select "YES", then press ENTER to preset the channels automatically (see page 28).

The screen will indicate automatic presetting is in progress.

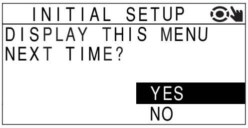
To skip automatic channel presetting, select "NO", then press ENTER.





4 Press ↑ or ↓ to select "NO", then press ENTER. The "INITIAL SETUP" menu will not appear again the next time you turn on the TV by pressing ①.

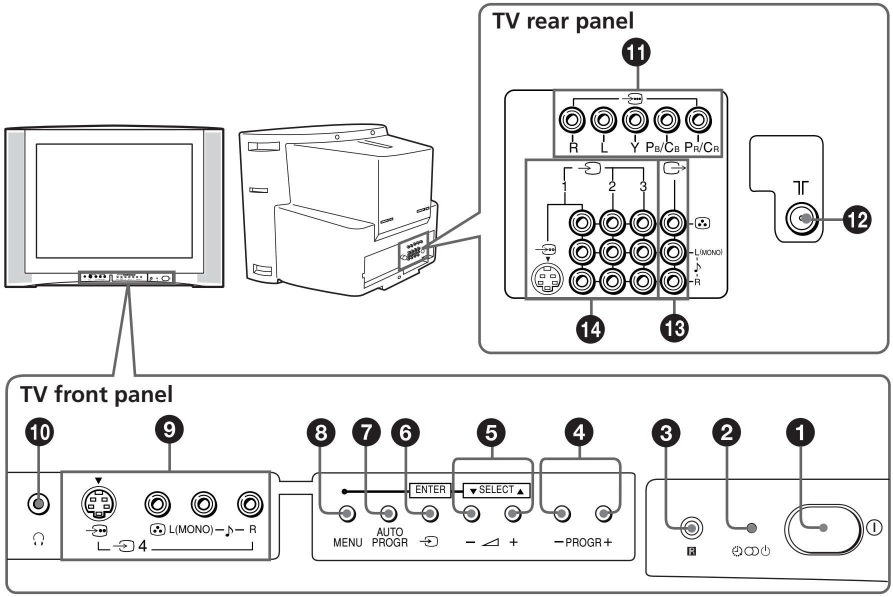
To allow this menu to appear again, select "YES", then press ENTER.



Tip

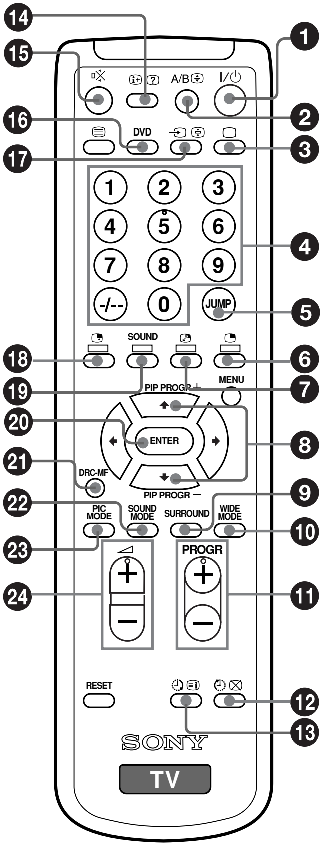
- You can immediately go to the end of the "INITIAL SETUP" menu by pressing MENU.
- You can also set up your TV using the menu system (see page 18).

TV front and rear panels



Button/Terminal	Function	Page
1 ⏽	Turn off or turn on the TV.	–
2 ⏻	Standby indicator.	–
2 (wake-up timer symbol)	Wake Up indicator.	15
2 ⚭ (KV-DR29M39 only)	Stereo/bilingual indicator.	16
3 (remote sensor symbol)	Remote control sensor.	–
4 PROGR +/–	Select program number.	–
5 ◿ +/–	Adjust volume.	–
6 ⇥	Select TV or video input.	–
7 AUTO PROGR	Preset channels automatically.	–
Menu operations		
5 SELECT ▼/▲	Select and adjust items	20
6 ENTER	Confirm selected items	20
8 MENU	Display or cancel the menu	20
9 ⇥4	Video input terminal 4.	31
10 ∩	Headphone jack.	–
11 ⇥•••	Component video input terminal.	32
12 ╥	Antenna input terminal.	31
13 ↦	Monitor output terminal.	31
14 ⇥1, ⇥2, ⇥3	Video input terminal 1, 2, 3.	31

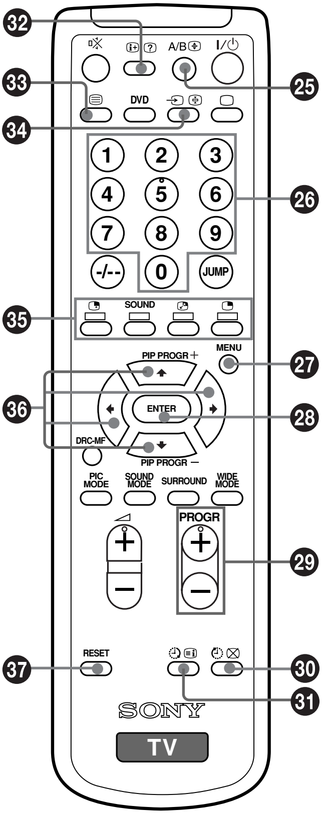
Remote control



Button	Function	Page
❶ I/⏻	Turn off temporarily or turn on the TV.	–
❸ ▢	Display the TV input.	–
❹ 0 – 9, -/--	Input numbers.	–
❺ JUMP	Jump to previous program number.	–
❾ SURROUND	Select surround mode.	14
❿ WIDE MODE	Select wide-mode (16:9).	12
⓫ PROGR +/–	Select program number.	–
⓮ (i+)	Display on-screen information.	–
⓯ (mute)	Mute the sound.	–
⓰ DVD	Select component video input.	32
⓱ (input)	Select TV or video input.	31
㉑ DRC-MF	Select DRC-MF mode.	12
㉒ SOUND MODE	Select sound mode.	11
㉓ PIC MODE	Select picture mode.	11
㉔ ◿ +/–	Adjust volume.	–
Timer operations		
⓬ (timer)	Set TV to turn off automatically.	15
⓭ (timer)	Set TV to turn on automatically.	15
PIP operations (yellow label)		
❻ (sub screen)	Display a sub screen.	13
❼ (swap)	Swap main and sub screens.	13
❽ PIP PROGR +/ PIP PROGR –	Display and change programs in the sub screen.	13,14
⓲ (input)	Select a video input in the sub screen.	13
⓳ SOUND	Swap sound between main and sub screen.	13
⓴ ENTER	Change sub screen to main screen.	14
Stereo/bilingual operations (KV-DR29M39 only)		
❷ A/B	Select stereo/bilingual mode.	16

continue

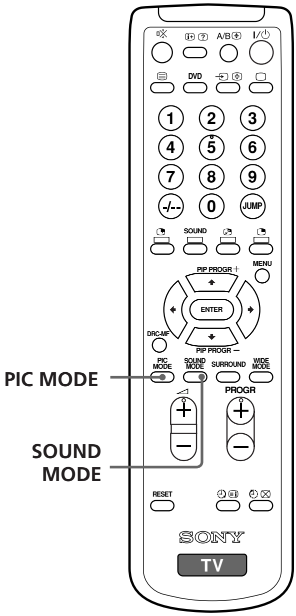
continued



Button		Function	Page
Menu operations			
27	MENU	Display or cancel the menu.	20
28	ENTER	Confirm selected items.	20
36	↑, ↓, ←, →	Select and adjust items.	20
Teletext operations (green label)			
25		Enlarge the Teletext display.	17
26	0 – 9	Input Teletext page number	17
29	PROGR +/–	Display the next or previous page.	17
30		Show TV screen while waiting for Teletext page.	17
31		Display Teletext service contents.	17
32	?	Reveal concealed information.	17
33		Display Teletext broadcast.	17
34		Stop Teletext display from scrolling.	17
35	(red, green, yellow, blue)	Access a FASTEXT menu.	17
37	RESET	Set TV to factory setting.	33

Selecting the picture and sound modes

You can select picture and sound modes and adjust the setting to your preference in the “PERSONAL” option.



Selecting the picture mode

Press PIC MODE to select the desired picture mode.

Select	To
“DYNAMIC”	view high contrast pictures.
“STANDARD”	view normal pictures.
“HI-FINE”	view higher density pictures with mild contrast.
“PERSONAL”	receive the last adjusted picture setting from the “ADJUST” option in the “PICTURE” menu (see page 22).

Selecting the sound mode

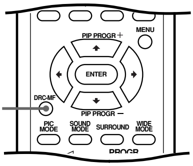
Press SOUND MODE to select the desired sound mode.

Select	To
“♪ DYNAMIC”	listen to dynamic and clear sound that emphasizes both the low and high tones.
“♪ DRAMA”	listen to sound that emphasizes voice and high tones.
“♪ SOFT”	listen to soft sound.
“♪ PERSONAL”	receive the last adjusted sound setting from the “ADJUST” option in the “SOUND” menu (see page 24).

Viewing higher quality pictures with DRC-MF

The Digital Reality Creation-Multi Function (DRC-MF) feature allows you to enjoy higher quality pictures on your TV. You can use the DRC-MF button to select "DRC1250" or "DRC PROGRESSIVE".

DRC-MF



Select	To
"DRC1250"	view super real (higher density) pictures.
"DRC PROGRESSIVE"	reduce jitter of any small areas or scanning lines (e.g., letters or the edge of objects) on the screen.

Note

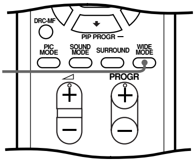
- The DRC-MF mode is not selectable when the "GAME MODE" or Picture-in-Picture ("PIP") mode is turned on.

The DRC-MF logo (DRC-MF Digital Reality Creation) and "DRC-MF" are trademarks of Sony Corporation.

Viewing the picture in wide mode

When receiving a wide-mode (16:9) signal, the picture will appear "squeezed" (compressed) on your screen. Use the WIDE MODE button to view the picture with the optimal effect.

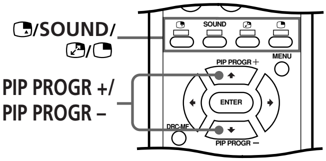
WIDE MODE



Select	To
"ON"	view the picture in wide-mode (16:9).
"OFF"	cancel wide-mode (16:9).

Watching Picture-in-Picture (PIP)

With the PIP feature, you can display two different TV programs or video input at the same time by using the button.



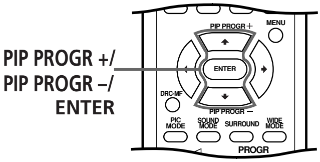
To	Press
Display a sub screen	. To cancel the sub screen, press the button again.
Change a program number in the sub screen	PIP PROGR + or PIP PROGR –.
Select a video input in the sub screen	.
Swap pictures between the main and sub screens	.
Swap sound between the main and sub screens A "♪" symbol will appear next to the program number or video input display to indicate which screen you are hearing.	SOUND.

Notes

- The DRC-MF mode is not selectable when PIP is turned on.
- The picture and sound from the (monitor output) terminals will always be from the main screen, even when you select the sub screen sound by pressing SOUND (see page 31).

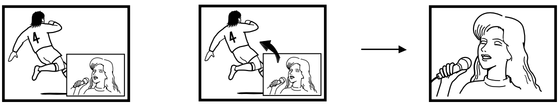
Selecting a TV program using PIP

You can select your desired TV program directly from the PIP sub screen by using the PIP PROGR +/– buttons.



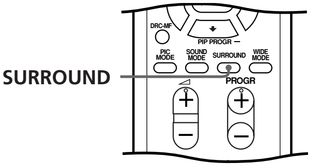
1 Press PIP PROGR +/– until the desired program appears in the sub screen.

2 Press ENTER to change the sub screen program to the main screen.



Listening with surround sound

You can use the SURROUND button to listen to the sound effects of a concert hall or movie theater.



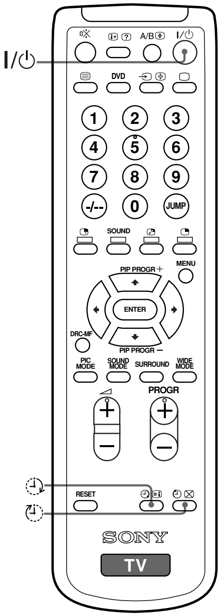
Select	To
"TruSurround"	listen to the surround sound that spreads out to the rear of a room.
"SIMULATED"	listen to monaural sound with a stereo-like effect.
"OFF"	cancel surround sound.

The surround of your TV is categorized as TruSurround.

TruSurround™ is a trademark of SRS Labs, Inc. SRS and the SRS symbol are registered trademarks of SRS Labs, Inc. in the United States and selected foreign countries. SRS and TruSurround are incorporated under license from SRS Labs, Inc. and are protected under United States Patent Nos. 4,748,669 and 4,841,572 with numerous additional issued and pending foreign patents.

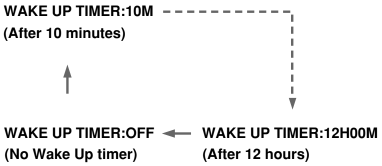
■ Setting the timers

You can set your TV to turn on and off automatically by using the WAKE UP and SLEEP timers respectively.



Setting the Wake Up timer

1 Press ⏲ until the desired period of time appears on the screen.



The Wake Up timer starts immediately after you have set it.

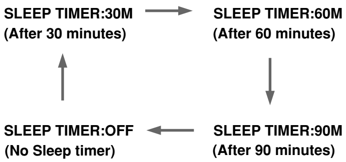
2 Select the program number or video input you want to wake up to.

3 Press I/⏻, or set the Sleep timer if you want the TV to turn off automatically.

The ⏲ indicator on the TV lights up orange when the TV goes into standby mode.

Setting the Sleep timer

Press ⏲ until the desired period of time appears on the screen.



The Sleep timer starts immediately after you have set it.

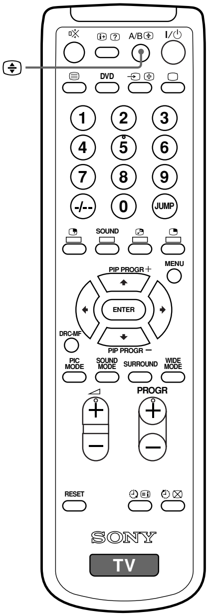
Notes

- You can also cancel the Wake Up and Sleep timers by turning off the TV's main power.
- If no buttons are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into standby mode.

Enjoying stereo or bilingual programs

▶ KV-DR29M39 only

You can enjoy stereo sound or bilingual programs of NICAM and A2 stereo systems by using the A/B button.



When receiving a NICAM program

Broadcasting	On-screen display (Selected sound)
NICAM stereo	NICAM (Stereo sound) → MONO (Regular sound)
NICAM bilingual	NICAM MAIN (Main sound) → NICAM SUB (Sub sound) → MONO (Regular sound)
NICAM monaural	NICAM MAIN (Main sound) → MONO (Regular sound)

When receiving an A2 program

Broadcasting	On-screen display (Selected sound)
A2 stereo	STEREO (Stereo sound) → MONO (Regular sound)
A2 bilingual	MAIN (Main sound) → SUB (Sub sound)

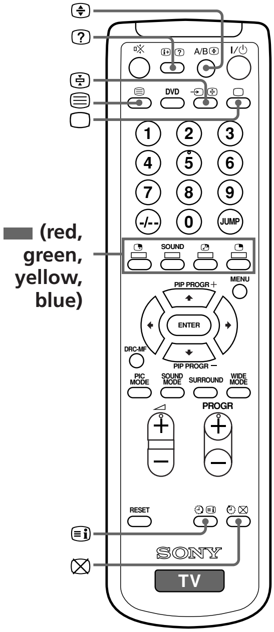
Notes

- If the stereo sound is noisy when receiving a stereo program, select "MONO". The sound becomes monaural, but the noise is reduced.
- If the sound is distorted when receiving a monaural program through ⫪ (antenna input), press A/B repeatedly until "MONO" appears on the screen. To cancel the monaural sound setting, press A/B again until "AUTO" appears on the screen.

■ Viewing Teletext

Some TV stations broadcast an information service called Teletext which allows you to receive various information, such as stock market reports and news.

You can use the buttons on the remote to view Teletext.



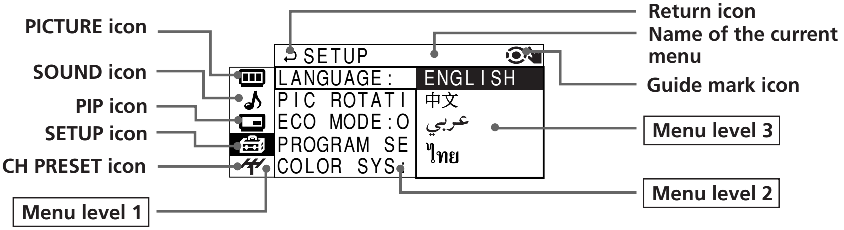
To	Do this
display a Teletext page on the TV picture	Press ≡. Each time you press ≡, the screen changes as follows: Teletext → Teletext and TV → TV. If there is no Teletext broadcast, "100" is displayed at the top left corner of the screen.
check the contents of a Teletext service	Press ⓘ. An overview of the Teletext contents, including page numbers, appears on the screen.
select a Teletext page	Press the number buttons to enter the three-digit page number of the desired Teletext page. If you make a mistake, reenter the correct page number. To access the next or previous page, press PROGR +/–.
hold (pause) a Teletext display	Press ⊜ to display the symbol "⊜" at the top left corner of the screen. To resume normal Teletext viewing, press ⊜ or ≡.
reveal concealed information (e.g., an answer to a quiz)	Press ?. To conceal the information, press the button again.
enlarge the Teletext display	Press ⇕. Each time you press ⇕, the Teletext display changes as follows: Enlarge upper half → Enlarge lower half → Normal size.
stand by for a Teletext page while watching a TV program	1 Enter the Teletext page number that you want to refer to, then press ⊠. 2 When the page number is displayed, press ≡ to show the text.
select a FASTEXT menu or the colored boxes	Press ▬ (red, green, yellow and blue) that corresponds to the desired menu or page number.
turn off Teletext	Press ▢.

Note

- The FASTEXT feature can be used only when the FASTEXT broadcast is available.

Introducing the menu system

The MENU button lets you open a menu and change the settings of your TV. The following is an overview of the menu system.



Level 1	Level 2	Level 3/Function	Page
"PICTURE"	"DRC-MF"	Select the "DRC-MF" mode: "DRC1250" → "PROGRESSIVE"	21
	"PICTURE MODE"	Select the picture mode: "DYNAMIC" → "STANDARD" → "HI-FINE" → "PERSONAL" → "ADJUST"	
	"ADJUST"	Adjust the "PERSONAL" option: "PICTURE" → "COLOR" → "BRIGHT" → "HUE" → "SHARP"	
	"3D-NR"	Reduce picture noise: "ON" → "OFF"	
	"WIDE MODE"	Change the picture size.	
	"GAME MODE"	Adjust the picture settings for video games.	
"SOUND"	"SOUND MODE"	Select the sound mode: "DYNAMIC" → "DRAMA" → "SOFT" → "PERSONAL" → "ADJUST"	23
	"ADJUST"	Adjust the "PERSONAL" option: "BASS" → "TREBLE" → "BALANCE" → "BBE"*	
	"SURROUND"	Select the "SURROUND" mode: "TruSurround" → "SIMULATED" →"OFF"	
	"INTELLIGENT VOL"	Adjust volume automatically.	
"PIP"	"POSITION"	Change the position of the sub screen.	25
	"PIP"	Display a sub screen within the main picture.	
	"SWAP"	Exchange pictures between main screen and sub screen.	

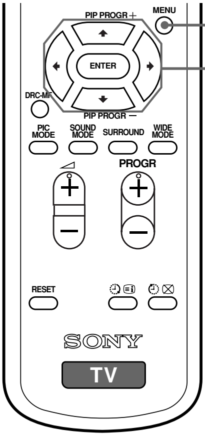
Level 1	Level 2	Level 3/Function	Page
“SETUP”	“LANGUAGE”	Change the menu language: “ENGLISH” → “中文”(Chinese) → “عربي”(Arabic) → “ไทย”(Thai)	26
	“PIC ROTATION”	Adjust the picture position.	
	“ECO MODE”	Reduce power consumption of your TV.	
	“PROGRAM SETUP”	Adjust each program number settings.	
	“COLOR SYS”	Select the color system: “AUTO” →“ PAL” → “SECAM” → “NTSC3.58” → “NTSC4.43”	
“CH PRESET”	“AUTO PROGRAM”	Preset channels automatically.	28
	“MANUAL PROGRAM”	Preset channels manually.	
	“TV SYS”	Select the TV system: “B/G” → “I” → “D/K” → “M”	

* The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word “BBE” and the BBE symbol are the trademarks of BBE Sound, Inc.

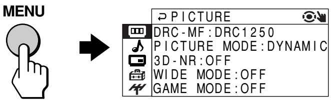
continue

continued

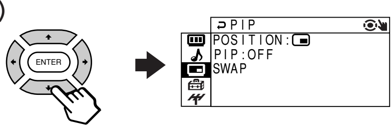
How to use the menu



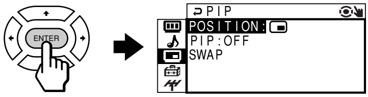
Press MENU to display the menu.



Press ↑ or ↓ (or ←/→) to select the desired item.



Press ENTER to confirm your selection and go to the next level.



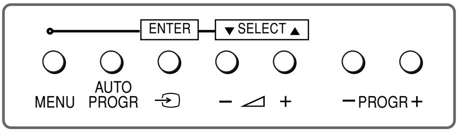
Other menu operations

To	Press
Adjust the setting value	↑, ↓, ← or →.
Move to the next/previous menu level	← or →.
Cancel the menu	MENU.

Tips

- If you want to exit from Menu level 2 to Menu level 1, press ↑ or ↓ until the return icon (⮐) is highlighted, then press ENTER.
- Some of the menu items can be operated directly using the remote buttons.
- The MENU, ENTER, and SELECT ▼/▲ buttons on the TV can also be used for the operations above.

Front of TV

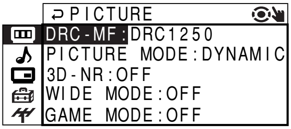


■ Changing the "PICTURE" setting

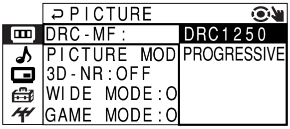
The "PICTURE" menu allows you to adjust the picture settings.

1 Press MENU.

2 Make sure the "PICTURE" icon ( ) is selected, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "DRC-MF"), then press ENTER.



Select	To
"DRC-MF"	choose either "DRC1250" or "PROGRESSIVE" (see page 12).
"PICTURE MODE"	choose either "DYNAMIC", "STANDARD", "HI-FINE", "PERSONAL"*, or "ADJUST" (see page 11).
"3D-NR"	adjust picture signal automatically to reduce noise. Press ↑ or ↓ to select "ON", then press ENTER. To cancel, select "OFF", then press ENTER.
"WIDE MODE"	choose either "ON" or "OFF" (see page 12).
"GAME MODE"	adjust the picture setting that is suitable to view video games. Press ↑ or ↓ to select "ON", then press ENTER. To cancel, select "OFF", then press ENTER.

* When the "PERSONAL" mode is selected, you can receive the last adjusted picture settings from the "ADJUST" option (see page 22).

Notes

- "GAME MODE" is available only when receiving signals through (video input), (S video input), or (component video input).
- The DRC-MF mode is not selectable when GAME MODE is turned on.

continue

Adjusting the "ADJUST" items under "PICTURE MODE"

1 Press ↑ or ↓ to select the desired item (e.g.,"COLOR"), then press ENTER.

2 Adjust the value according to the following table, then press ENTER.

For	Press ↓ or ← to	Press ↑ or → to
"PICTURE"	decrease picture contrast.	increase picture contrast.
"COLOR"	decrease color intensity.	increase color intensity.
"BRIGHT"	darken the picture.	brighten the picture.
"HUE"	increase red picture tones.	increase green picture tones.
"SHARP"	soften the picture.	sharpen the picture.

Notes
- "HUE" can be adjusted for the NTSC color system only.
- Reducing sharpness ("SHARP") can also reduce picture noise.

3 Repeat the above steps to adjust other items.

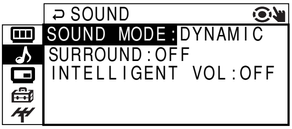
The adjusted settings will be received when you select "PERSONAL".

■ Changing the “SOUND” setting

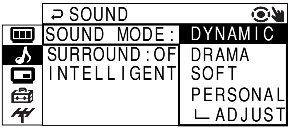
The “SOUND” menu allows you to adjust the sound settings.

1 Press MENU.

2 Press ↑ or ↓ to select the “SOUND” icon (♪), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “SOUND MODE”), then press ENTER.



Select	To
“SOUND MODE”	choose either “DYNAMIC”, “DRAMA”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“SURROUND”	choose either “TruSurround”, “SIMULATED” or “OFF” (see page 14).
“INTELLIGENT VOL”	adjust the volume of all program numbers and video inputs automatically. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.

* When the “PERSONAL” mode is selected, you can receive the last adjusted sound settings from the “ADJUST” option (see page 24).

continue

continued

Adjusting the "ADJUST" items under "SOUND MODE"

1 Press ↑ or ↓ to select the desired item (e.g., "BALANCE"), then press ENTER.

2 Adjust the value according to the following table, then press ENTER .

For	Press ↓ or ← to	Press ↑ or → to
"BASS"	decrease the bass.	increase the bass.
"TREBLE"	decrease the treble.	increase the treble.
"BALANCE"	increase the left speaker's volume.	increase the right speaker's volume.
"BBE"	select "HIGH" for higher enhancement of sound clarity; select "LOW" for lower enhancement of sound clarity; select "OFF" to cancel BBE sound.	

3 Repeat the above steps to adjust other items.

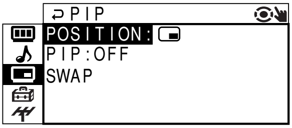
The adjusted settings will be received when you select "PERSONAL".

Changing the Picture-in-Picture ("PIP") setting

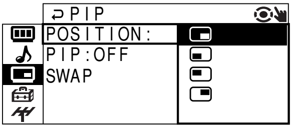
The "PIP" menu allows you to display a sub screen, change the sub screen position and exchange pictures between the main and sub screens.

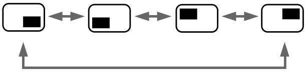
1 Press MENU.

2 Press ↑ or ↓ to select the "PIP" icon ( ), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "POSITION"), then press ENTER.



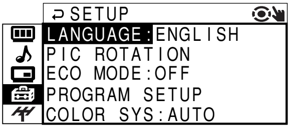
Select	To
"POSITION"	change the position of the sub screen. Press ↑ or ↓ to select the desired position, then press ENTER . 
"PIP"	display a sub screen. Press ↑ or ↓ to select "ON", then press ENTER . To cancel, press or select "OFF", then press ENTER .
"SWAP"	exchange pictures between the main screen and sub screen.

Changing the “SETUP” setting

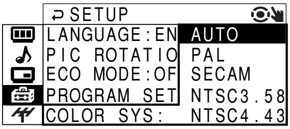
The “SETUP” menu allows you to change the menu language, adjust the picture position, reduce your TV power consumption, set up your program numbers and select the color system.

1 Press MENU.

2 Press ↑ or ↓ to select the “SETUP” icon ( ), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “COLOR SYS”), then press ENTER.

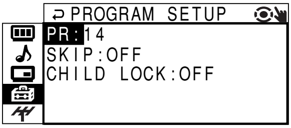


Select	To
“LANGUAGE”	change the menu language. Press ↑ or ↓ to select either “ENGLISH”, “中文” (Chinese), “ عربي ” (Arabic), or “ ไทย ” (Thai) then press ENTER. The selected menu language appears.
“PIC ROTATION”	adjust the picture position when it is not aligned with the TV screen. Press ↑ , → , ↓ or ← to adjust the picture position, then press ENTER.
“ECO MODE”	reduce power consumption of your TV to save energy. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER. When you press ⓘ or turn on the TV, ECO MODE (ECO) symbol will appear on the screen for about 40 seconds.
“PROGRAM SETUP”	adjust each channel settings (see **Adjusting each program number settings (“PROGRAM SETUP”)** on page 27).
“COLOR SYS”	Select the color system. Normally, set this to “AUTO”.

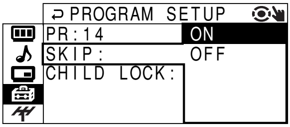
Adjusting each program number settings (“PROGRAM SETUP”)

1 Select “PROGRAM SETUP” from the “SETUP” menu.

2 Select “PR” and press ENTER. Press ↑ or ↓ to select the desired program number you want to adjust, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “SKIP”), then press ENTER.



Select	To
“PR”	select the desired program number.
“SKIP”	skip unwanted or unused program number. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.
“CHILD LOCK”	prevent children from watching this selected program number. Press ↑ or ↓ to select “ON”, then press ENTER. The lock symbol (🔒) appears on the screen. To cancel, select “OFF”, then press ENTER If you preset a locked program number, that program number will be unlocked automatically.

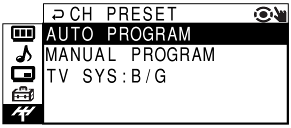
4 To continue adjusting other program numbers, press ↑ or ↓ to select “PR”, then repeat step 2 and 3.

■ Changing the Channel Preset ("CH PRESET") setting

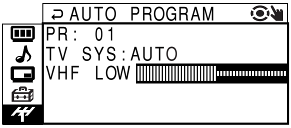
The "CH PRESET" menu allows you to preset channels automatically, manually preset channels and select the TV system.

1 Press MENU.

2 Press ↑ or ↓ to select the "CH PRESET" icon ( ), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "AUTO PROGRAM"), then press ENTER.

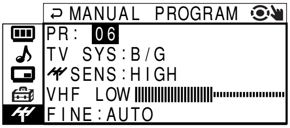


Select	To
"AUTO PROGRAM"	preset channels automatically.
"MANUAL PROGRAM"	manually preset desired channels and channels that cannot be preset automatically (see **Presetting channels manually** on page 29).
"TV SYS"	select the TV system. Press ↑ or ↓ to select either "B/G", "I", "D/K" or "M", then press ENTER.

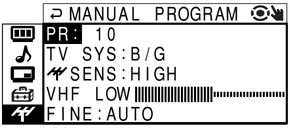
Presetting channels manually

1 After selecting "MANUAL PROGRAM", select the program number to which you want to preset a channel.

(1) Make sure "PR" is selected, then press ENTER.



(2) Press ↑ or ↓ until the program number you want to preset (e.g., program number "10") appears on the menu, then press ENTER.

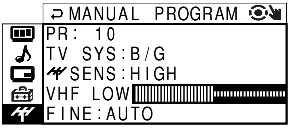


Tip

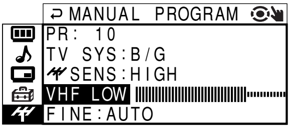
- You can also select the program number with the PROGR +/– or number buttons.

2 Select the desired channel.

(1) Press ↑ or ↓ to select either "VHF LOW", "VHF HIGH", or "UHF", then press ENTER.

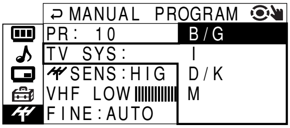


(2) Press ↑ or ↓ until the desired channel's broadcast appears on the TV screen, then press ENTER.

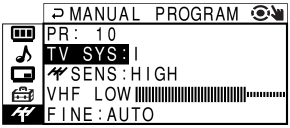


3 If the sound of the desired channel is abnormal, select the appropriate TV system.

(1) Press ↑ or ↓ to select "TV SYS", then press ENTER.



(2) Press ↑ or ↓ until the sound becomes normal, then press ENTER.

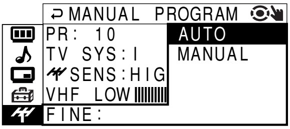


continue

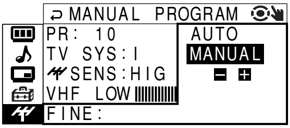
continued

4 If you are not satisfied with the picture and sound quality, you may be able to improve them by using the “FINE” tuning feature.

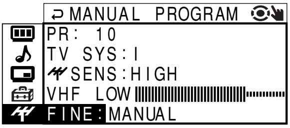
(1) Press ↑ or ↓ to select “FINE”, then press ENTER.



(2) Press ↑ or ↓ to select “MANUAL”, then press ENTER.

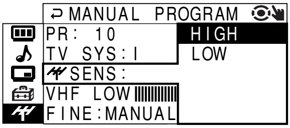


(3) Press ↑, ↓, ← or → until the picture and sound quality are optimal, then press ENTER.
The + or – icon on the menu flashes while tuning.

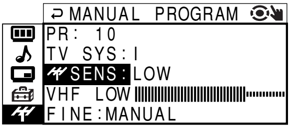


5 If the TV signal is too strong and the picture is distorted, you can adjust the TV reception sensitivity.

(1) Press ↑ or ↓ to select “SENS”, then press ENTER.



(2) Press ↑ or ↓ to select “LOW”, then press ENTER.

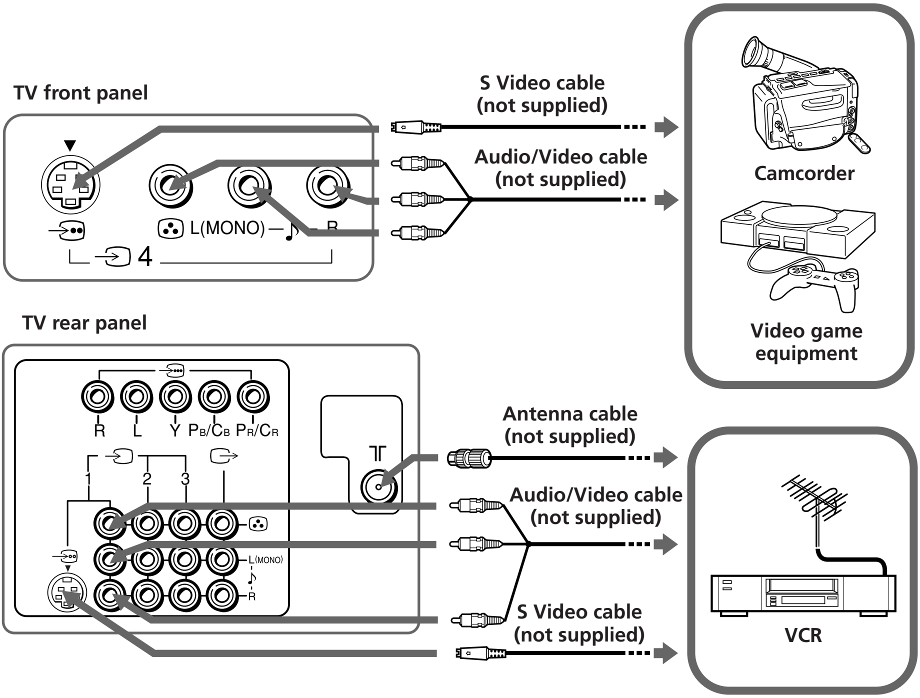


Note

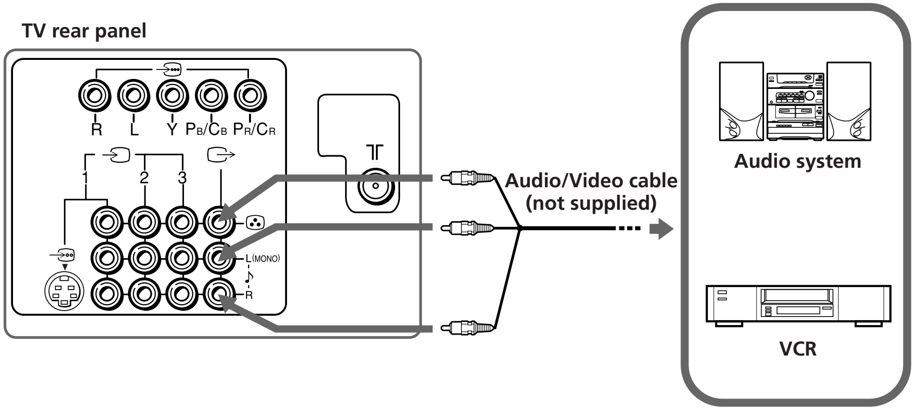
- If you connect a VCR to ⊤⊤ (antenna input), preset the signal output from the VCR to the program number 0 on the TV.

Connecting optional components

Connecting to the video input terminal (⇥)



Connecting to the monitor output terminal (⇨)



continue

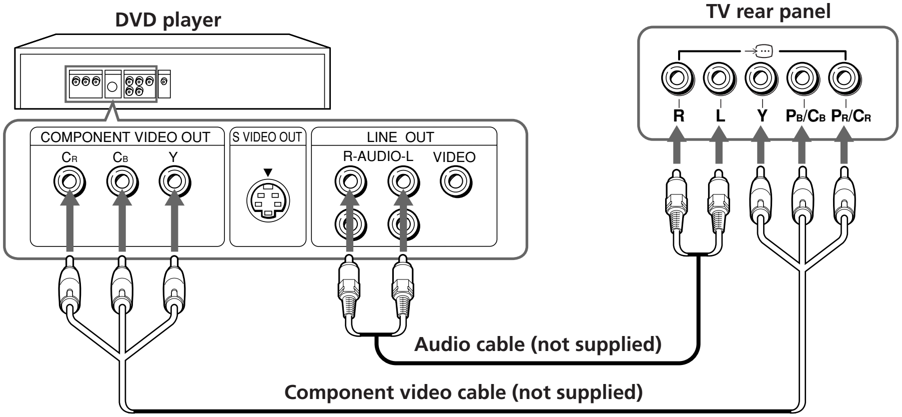
continued

Connecting a DVD player to the component video input terminal (⇥)

1 Using an audio cable, connect R and L under ⇥ (component video input) on your TV to the LINE OUT, AUDIO R and L output connectors on your DVD player.

2 Using a component video cable, connect Y, PB/CB, and PR/CR under ⇥ (component video input) on your TV to the COMPONENT VIDEO OUT Y, CB, and CR output connectors on your DVD player.

3 Press DVD on the remote to watch the ⇥ (component video input) and "DVD" will appear on your screen.



Notes

- Some DVD player terminals may be labeled differently:

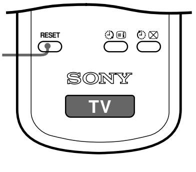
Connect	To (on the DVD player)
Y (green)	Y
PB/CB (blue)	CB, PB, Cb or B-Y
PR/CR (red)	CR, PR, Cr or R-Y

- When both ⇥ (S video) and ⊙ (video) for ⇥ 1 or ⇥ 4 are connected at the same time, ⇥ (S video) is automatically selected. To view ⊙ (video), disconnect the S video cable.
- If you select "DVD" on your TV screen, the signal from the ⇨ (monitor output) will not be output properly. This does not indicate a malfuncion.
- When receiving a progressive signal through the ⇥ (component video input), "PIP" is not available, and "DRC-MF" and "GAME MODE" are not selectable.

Troubleshooting

If you have any problem while viewing your TV, you can either use the Reset function or check the Troubleshooting guide below. If the problem persists, contact your Sony dealer.

RESET

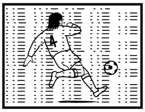
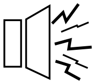
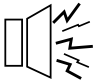
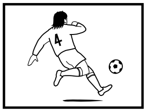
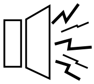


Reset function

Press the RESET button on your remote control. Your TV will go blank for about half a second then the picture will reappear with "RESET" displayed on your TV screen for about 10 seconds.

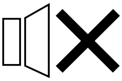
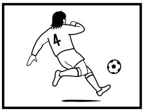
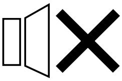
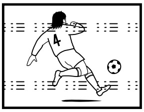
Pressing RESET will set your TV to the factory setting, but certain problems may be solved.

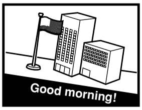
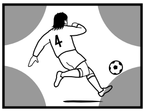
Troubleshooting guide

Symptom	Possible cause	Solutions	Page
Snowy picture  Noisy sound 	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and at the wall.	31
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
	• Channel presetting is inappropriate or incomplete.	• Display the "CH PRESET" menu and select "MANUAL PROGRAM" to preset the channel again.	29
	• Signal transmission is low.	• Try using a booster.	–
Distorted picture Noisy sound 	• Broadcast signals are too strong.	• Display the "CH PRESET" menu and select "MANUAL PROGRAM". Then, select " SENS: LOW".	30
		• Turn off or disconnect the booster if it is in use.	–
Good picture  Noisy sound 	• The TV system setting is inappropriate.	• Display the "CH PRESET" menu and select the appropriate TV system ("TV SYS").	29
	• PIP sound is selected when PIP is displayed.	• Press SOUND or .	13

continue

continued

Symptom	Possible cause	Solutions	Page
No picture **No sound** 	• The power cord, antenna or VCR is not connected.	• Check the power cord, antenna and VCR connections.	31
	• The TV is not turned on.	• Press I/⏻ (power). • Press Ⓘ (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	9 8
Good picture  **No sound** 	• The volume level is too low.	• Press ◿ + to increase the volume level.	9
	• The sound is muted. • PIP sound is selected when PIP is displayed.	• Press 🔇 to cancel the muting. • Press SOUND or ◔.	9 13
Dotted lines or stripes 	• There is local interference from cars, neon signs, hair dryers, power generators, etc.	• Do not use a hair dryer or other equipment near the TV. • Check the antenna setup. Contact a Sony dealer for advice.	– –
Double images or "ghosts"	• Broadcast signals are reflected by nearby mountains or buildings.	• Use a highly directional antenna. • Use the fine tuning ("FINE") function.	– 30
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
	• Use of a booster is inappropriate.	• Turn off or disconnect the booster if it is in use.	–
No color	• The color level setting is too low.	• Display the "PICTURE" menu and select "ADJUST" of "PICTURE MODE", then adjust the "COLOR" level.	22
	• The color system setting is inappropriate.	• Display the "SETUP" menu and check the color system ("COLOR SYS") setting (usually set this to "AUTO").	26
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–

Symptom	Possible cause	Solutions	Page
Picture slant 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. • Display the "SETUP" menu and adjust "PIC ROTATION" so that the picture position is optimal.	– 26
Abnormal color patches 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other equipment away from the TV. Do not move the TV while the TV is turned on. Press ① (main power) on the TV to turn off the TV for about 15 minutes, then turn it on again to demagnetize the TV.	–
TV cannot receive stereo broadcast sound. **or** **Stereo broadcast sound switches on and off or is distorted. (KV-DR29M39 only)**	• The stereo reception setting is inappropriate.	• Press A/B until "AUTO" appears on the screen.	16
	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and on the wall.	31
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
"100" appears at the top of the screen and there is no Teletext display.	• The channel carries no Teletext broadcast.	—	17
Teletext display is incomplete (snowy picture or double images).	• Connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR, and at the wall.	31
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
	• Signal transmission is too low.	• Try using a booster. • Use the fine tuning ("FINE") function.	– 30

continue

continued

Symptom	Possible cause	Solutions	Page
The ⏻ (standby) indicator on your TV flashes red several times after every three seconds.	• Your TV's self-diagnosis function indicates the possible problems.	• Count the number of times the ⏻ (standby) indicator flashes. Press ⓘ (main power) to turn off your TV. Contact your nearest Sony service center.	–
Cannot play shooting games.	• Some shooting games which involve pointing a light beam at the TV screen with an electronic gun or rifle cannot be used with your TV. For details, see the instruction manual supplied with the video game software.	—	–
TV cabinet creaks.	• Changes in room temperature sometimes make the TV cabinet expand or contract, causing a noise. This does not indicate a malfunction.	—	–
A small "boom" sound is heard when the TV is turned on.	• The TV's demagnetizing function is working. This does not indicate a malfunction.	—	–

Specifications

	KV-DR34M89	KV-DR29M89 KV-DR29M39	Note
Power requirements	110-240 V AC, 50/60 Hz		
	220-240 V AC, 50/60 Hz		New Zealand only
Power consumption (W)	Indicated on the rear of the TV		
Television system	B/G, I, D/K, M		
Color system	PAL, PAL 60, SECAM, NTSC3.58, NTSC4.43		
Stereo/Bilingual system	NICAM Stereo/Bilingual B/G, I; A2 Stereo/Bilingual B/G		KV-DR29M39 only
Teletext language	English, Arabic, French		
Channel coverage **B/G**	VHF : E2 to E12 UHF : E21 to E69 CATV : S01 to S03, S1 to S41		
	VHF : 1 to 11 UHF : 21 to 69 CATV : S01 to S03, S1 to S41		New Zealand only
I	UHF : B21 to B68 CATV : S01 to S03, S1 to S41		
D/K	VHF : C1 to C12, R1 to R12 UHF : C13 to C57, R21 to R60 CATV : S01 to S03, S1 to S41, Z1 to Z39		
M	VHF : A2 to A13 UHF : A14 to A79 CATV : A-8 to A-2, A to W+4, W+6 to W+84		
(Antenna)	75-ohm external terminal		
Audio output (Speaker)	6W + 6W		
3D WOOFER	15W		
Number of terminal **(Video)**	Input: 4 Output: 1 Phono jacks; 1 Vp-p, 75 ohms		
(Audio)	Input: 4 Output: 1 Phono jacks; 500 mVrms		
(S Video)	Input: 2 Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms		
(Component Video)	Input: 1 Phono jacks; Y: 1 Vp-p, 75 ohms, sync negative P_B/C_B: 0.7 Vp-p, 75 ohms P_R/C_R 0.7 Vp-p, 75 ohms Audio: 500 mVrms		
(Headphone)	Output: 1 Stereo minijack		
Picture tube	34 in.	29 in.	
Tube size (cm)	86	72	Measured diagonally
Screen size (cm)	80	68	Measured diagonally
Dimensions (w/h/d, mm)	894 × 690 × 569	786 × 596 × 514	
Mass (kg)	85	57	

Design and specifications are subject to change without notice.

http://www.sony.net/

Sony Corporation

SONY®

4-088-356-**11** (1)

Trinitron Color TV
เครื่องรับโทรทัศน์สี Trinitron

Operating Instructions

GB

- Before operating the unit, please read this manual thoroughly and retain it for future reference.

คู่มือการใช้งาน

ไทย

- ก่อนเริ่มการใช้งานกรุณาอ่านคู่มือนี้โดยละเอียดทั้งหมดและเก็บรักษาคู่มือไว้สำหรับอ้างอิงในโอกาสต่อ ๆไป

FD Trinitron

WEGA

KV-DR34
KV-DR29

M69
M63

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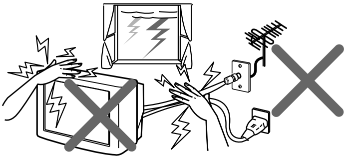
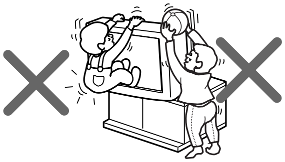
WARNING

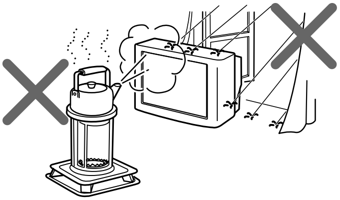
- Dangerously high voltages are present inside the TV.
- TV operating voltage: 220 – 240 V AC.
- Do not plug in the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage and damage to the remote, remove the batteries from the remote if you are not going to use it for several days. If any liquid leaks from the batteries and touches your skin, immediately wash it away with water.



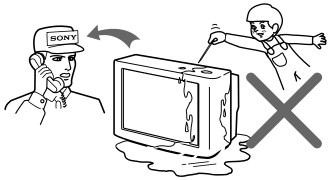
For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.



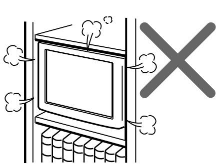
For children’s safety, do not leave children alone with the TV. Do not allow children to climb onto it.



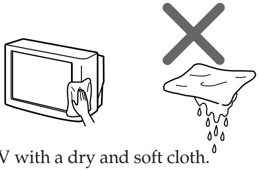
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



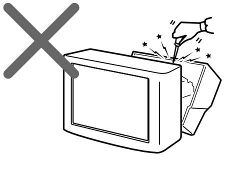
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



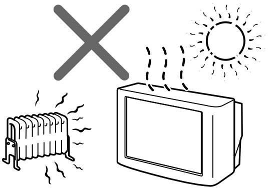
Do not block the ventilation openings of the TV. Do not install the TV in a confined space, such as a bookcase or built-in cabinet.



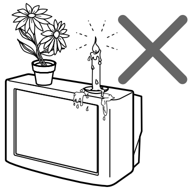
Clean the TV with a dry and soft cloth.
Do not use benzine, thinner, or any other chemicals to clean the TV. Do not attach anything (e.g., adhesive tape, cellophane tape, glue) on the painted cabinet of the TV. Do not scratch the picture tube.



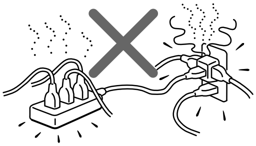
Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



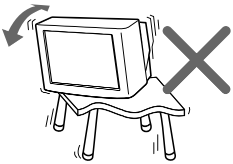
Your TV is recommended for home use only.
Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.



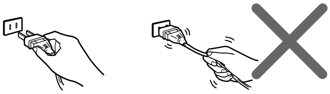
Do not place any objects on the TV.



Do not plug in too many appliances to the same power socket. Do not damage the power cord.



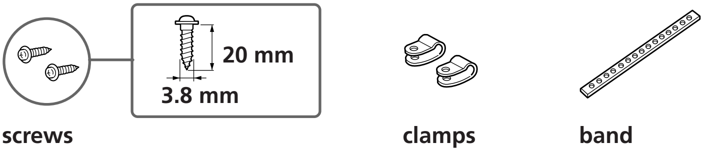
Install the TV on a stable TV stand and floor which can support the TV set weight. Ensure that the TV stand surface is flat and its area is larger than the bottom area of the TV.

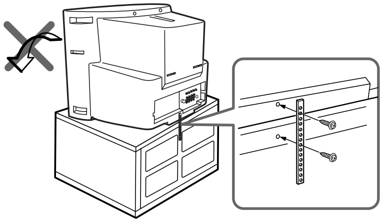


Pull the power cord out by the plug. Do not pull the power cord itself. Even if your TV is turned off, it is still connected to the AC power source (mains) as long as the power cord is plugged in. Unplug the TV before moving it or if you are not going to use it for several days.

Securing the TV

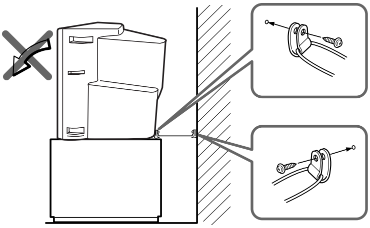
To prevent the TV from falling, use the supplied screws, clamps and band to secure the TV.





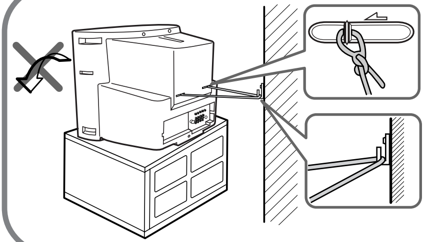
Screw the band to the TV stand and to the provided hole at the rear of your TV.

or



(1) Put a cord or chain through the clamps.
(2) Screw one clamp to a wall or pillar and the other clamp to the provided hole at the rear of your TV.

or



(1) Attach each end of a cord or chain to the provided holders at the rear of your TV.
(2) Securely fix the attached cord or chain to a wall or pillar using an attachment which can support the TV set weight.

Note

- Use only the supplied screws. Use of other screws may damage the TV.

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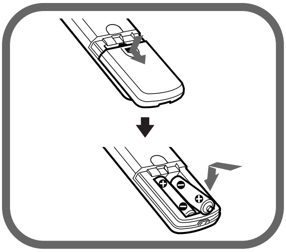
GB

Getting Started

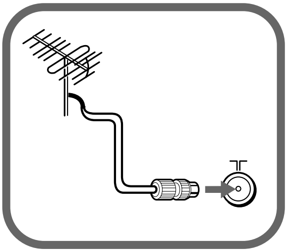


Step 1

Insert the batteries (supplied) into the remote.

Note

- Do not use old or different types of batteries together.

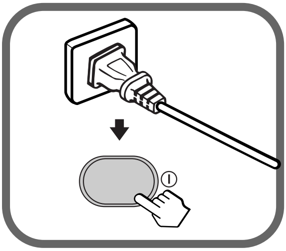


Step 2

Connect the antenna cable (not supplied) to ⫪ (antenna input) at the rear of the TV.

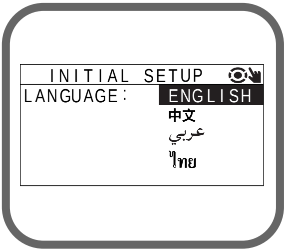
Tip

- You can also connect your TV to other optional components (see page 31).



Step 3

Plug in the power cord, then press ⏻ on the TV to turn it on.

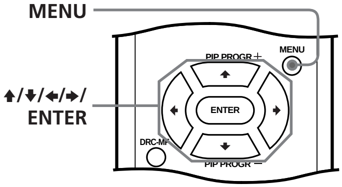


Step 4

Set up the TV by following the instructions of the "INITIAL SETUP"menu (see page 7).

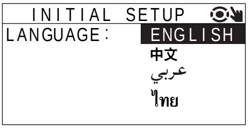
Setting up your TV ("INITIAL SETUP")

When you turn on your TV for the first time, the "INITIAL SETUP" menu will appear. This menu allows you to change the menu language, adjust the picture position and preset the TV channels automatically.



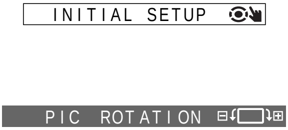
1 Press ↑ or ↓ to select the desired menu language (e.g.,"ENGLISH"), then press ENTER.

The selected menu language appears.



2 Press ↑ or ↓ (or ←/→), then press ENTER to adjust the picture position if it is not aligned to the TV screen.

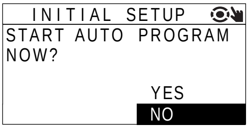
The ⊞ or ⊟ icon on the screen flashes while adjusting.

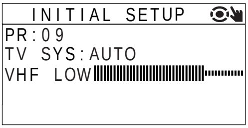


3 Press ↑ or ↓ to select "YES", then press ENTER to preset the channels automatically (see page 28).

The screen will indicate automatic presetting is in progress.

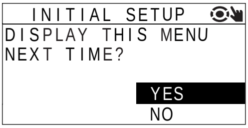
To skip automatic channel presetting, select "NO", then press ENTER.





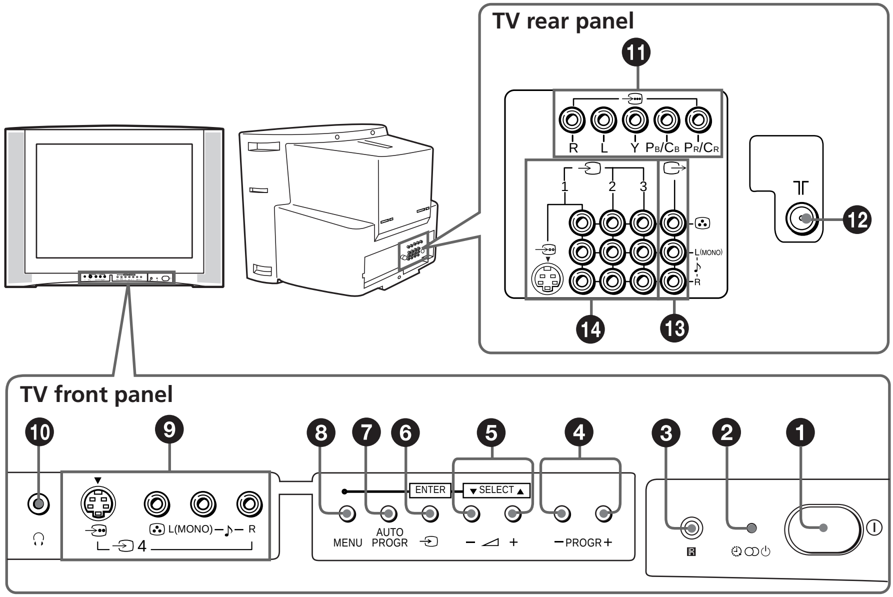
4 Press ↑ or ↓ to select "NO", then press ENTER. The "INITIAL SETUP" menu will not appear again the next time you turn on the TV by pressing ⏻.

To allow this menu to appear again, select "YES", then press ENTER.



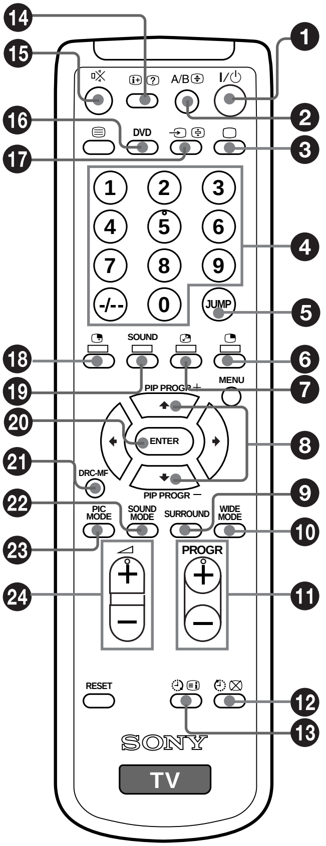
Tip
- You can immediately go to the end of the "INITIAL SETUP" menu by pressing MENU.
- You can also set up your TV using the menu system (see page 18).

TV front and rear panels



Button/Terminal	Function	Page
❶ ⏽	Turn off or turn on the TV.	–
❷ ⏻	Standby indicator.	–
❷ (Wake Up symbol)	Wake Up indicator.	15
❷ (Stereo symbol)	Stereo/bilingual indicator.	16
❸ (Remote sensor symbol)	Remote control sensor.	–
❹ PROGR +/–	Select program number.	–
❺ ◿ +/–	Adjust volume.	–
❻ (Input symbol)	Select TV or video input.	–
❼ AUTO PROGR	Preset channels automatically.	–
Menu operations		
❺ SELECT ▼/▲	Select and adjust items.	20
❻ ENTER	Confirm selected items.	20
❽ MENU	Display or cancel the menu.	20
❾ (Input symbol)4	Video input terminal 4.	31
❿ (Headphone symbol)	Headphone jack.	–
⓫ (Component input symbol)	Component video input terminal.	32
⓬ (Antenna symbol)	Antenna input terminal.	31
⓭ (Output symbol)	Monitor output terminal.	31
⓮ (Input symbol)1, (Input symbol)2, (Input symbol)3	Video input terminal 1, 2, 3.	31

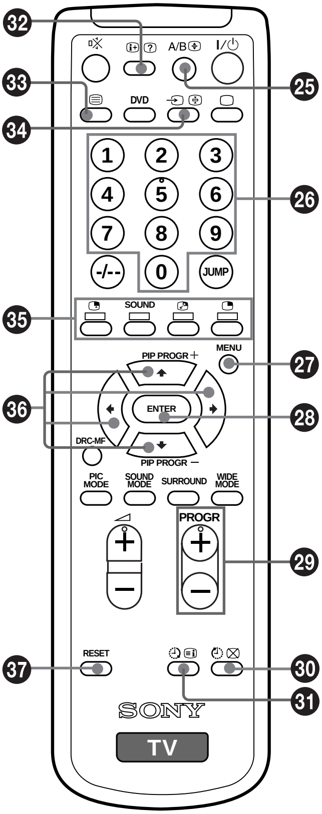
■ Remote control



Button	Function	Page
❶ I/⏻	Turn off temporarily or turn on the TV.	–
❸ ▢	Display the TV input.	–
❹ 0 – 9, -/--	Input numbers.	–
❺ JUMP	Jump to previous program number.	–
❾ SURROUND	Select surround mode.	14
❿ WIDE MODE	Select wide-mode (16:9).	12
⓫ PROGR +/–	Select program number.	–
⓮ (i+)	Display on-screen information.	–
⓯ (mute)	Mute the sound.	–
⓰ DVD	Select component video input.	32
⓱ (input)	Select TV or video input.	31
㉑ DRC-MF	Select DRC-MF mode.	12
㉒ SOUND MODE	Select sound mode.	11
㉓ PIC MODE	Select picture mode.	11
㉔ ◿ +/–	Adjust volume.	–
Timer operations		
⓬ (timer)	Set TV to turn off automatically.	15
⓭ (timer)	Set TV to turn on automatically.	15
PIP operations (yellow label) (KV-DR34M69 only)		
❻ (sub screen)	Display a sub screen.	13
❼ (swap)	Swap main and sub screens.	13
❽ PIP PROGR +/ PIP PROGR –	Display and change programs in the sub screen.	13,14
⓲ (input)	Select a video input in the sub screen.	13
⓳ SOUND	Swap sound between main and sub screen.	13
⑳ ENTER	Change sub screen to main screen.	14
Stereo/bilingual operations		
❷ A/B	Select stereo/bilingual mode.	16

continue

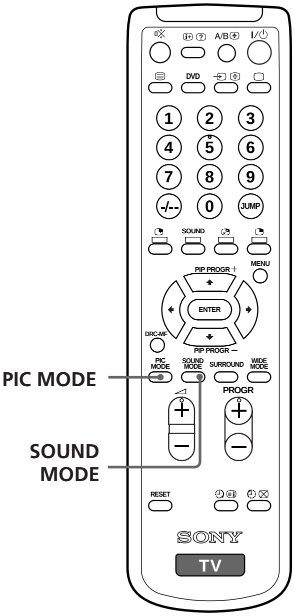
continued



Button	Function	Page
Menu operations		
27 MENU	Display or cancel the menu.	20
28 ENTER	Confirm selected items.	20
36 ↑, ↓, ←, →	Select and adjust items.	20
Teletext operations (green label) (KV-DR34M69 only)		
25 ⊜	Enlarge the Teletext display.	17
26 0 – 9	Input Teletext page number	17
29 PROGR +/–	Display the next or previous page.	17
30 ⊠	Show TV screen while waiting for Teletext page.	17
31 ≡i	Display Teletext service contents.	17
32 ?	Reveal concealed information.	17
33 ≡	Display Teletext broadcast.	17
34 ⊟	Stop Teletext display from scrolling.	17
35 ▬ (red, green, yellow, blue)	Access a FASTEXT menu.	17
37 RESET	Set TV to factory setting.	33

Selecting the picture and sound modes

You can select picture and sound modes and adjust the setting to your preference in the “PERSONAL” option.



Selecting the picture mode

Press PIC MODE to select the desired picture mode.

Select	To
“DYNAMIC”	view high contrast pictures.
“STANDARD”	view normal pictures.
“HI-FINE”	view higher density pictures with mild contrast.
“PERSONAL”	receive the last adjusted picture setting from the “ADJUST” option in the “PICTURE” menu (see page 22).

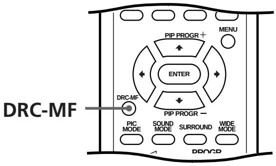
Selecting the sound mode

Press SOUND MODE to select the desired sound mode.

Select	To
“♪ DYNAMIC”	listen to dynamic and clear sound that emphasizes both the low and high tones.
“♪ DRAMA”	listen to sound that emphasizes voice and high tones.
“♪ SOFT”	listen to soft sound.
“♪ PERSONAL”	receive the last adjusted sound setting from the “ADJUST” option in the “SOUND” menu (see page 24).

Viewing higher quality pictures with DRC-MF

The Digital Reality Creation-Multi Function (DRC-MF) feature allows you to enjoy higher quality pictures on your TV. You can use the DRC-MF button to select "DRC1250" or "DRC PROGRESSIVE".



Select	To
"DRC1250"	view super real (higher density) pictures.
"DRC PROGRESSIVE"	reduce jitter of any small areas or scanning lines (e.g., letters or the edge of objects) on the screen.

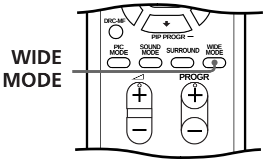
Note

- The DRC-MF mode is not selectable when the "GAME MODE" or Picture-in-Picture ("PIP") mode is turned on.

The DRC-MF logo (DRC-MF Digital Reality Creation) and "DRC-MF" are trademarks of Sony Corporation.

Viewing the picture in wide mode

When receiving a wide-mode (16:9) signal, the picture will appear "squeezed" (compressed) on your screen. Use the WIDE MODE button to view the picture with the optimal effect.

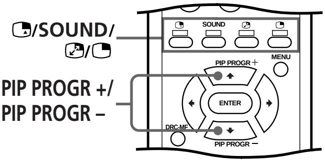


Select	To
"ON"	view the picture in wide-mode (16:9).
"OFF"	cancel wide-mode (16:9).

Watching Picture-in-Picture (PIP)

▶ KV-DR34M69 only

With the PIP feature, you can display two different TV programs or video input at the same time by using the button.



To	Press
Display a sub screen	. To cancel the sub screen, press the button again.
Change a program number in the sub screen	PIP PROGR + or PIP PROGR –.
Select a video input in the sub screen	.
Swap pictures between the main and sub screens	.
Swap sound between the main and sub screens A "♪" symbol will appear next to the program number or video input display to indicate which screen you are hearing.	SOUND.

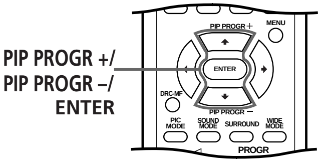
Notes

- The DRC-MF mode is not selectable when PIP is turned on.
- The picture and sound from the (monitor output) terminals will always be from the main screen, even when you select the sub screen sound by pressing SOUND (see page 31).

Selecting a TV program using PIP

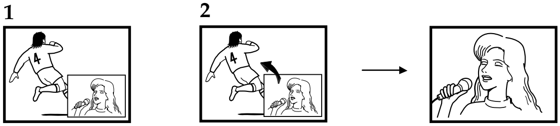
▶ **KV-DR34M69 only**

You can select your desired TV program directly from the PIP sub screen by using the PIP PROGR +/– buttons.



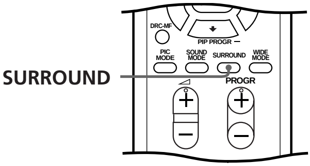
1 Press PIP PROGR +/– until the desired program appears in the sub screen.

2 Press ENTER to change the sub screen program to the main screen.



Listening with surround sound

You can use the SURROUND button to listen to the sound effects of a concert hall or movie theater.



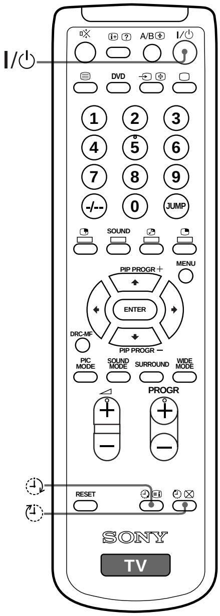
Select	To
"TruSurround"	listen to the surround sound that spreads out to the rear of a room.
"SIMULATED"	listen to monaural sound with a stereo-like effect.
"OFF"	cancel surround sound.

The surround of your TV is categorized as TruSurround.

TruSurround™ is a trademark of SRS Labs, Inc. SRS and the SRS symbol are registered trademarks of SRS Labs, Inc. in the United States and selected foreign countries. SRS and TruSurround are incorporated under license from SRS Labs, Inc. and are protected under United States Patent Nos. 4,748,669 and 4,841,572 with numerous additional issued and pending foreign patents.

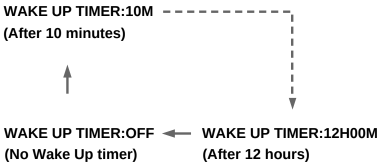
Setting the timers

You can set your TV to turn on and off automatically by using the WAKE UP and SLEEP timers respectively.



Setting the Wake Up timer

1 Press ◷ until the desired period of time appears on the screen.



The Wake Up timer starts immediately after you have set it.

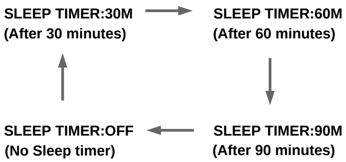
2 Select the program number or video input you want to wake up to.

3 Press I/⏻, or set the Sleep timer if you want the TV to turn off automatically.

The ◷ indicator on the TV lights up orange when the TV goes into standby mode.

Setting the Sleep timer

Press ◷ until the desired period of time appears on the screen.



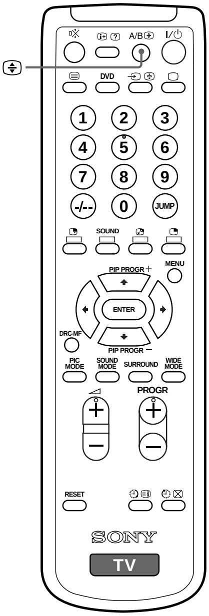
The Sleep timer starts immediately after you have set it.

Notes

- You can also cancel the Wake Up and Sleep timers by turning off the TV's main power.
- If no buttons are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into standby mode.

Enjoying stereo or bilingual programs

You can enjoy stereo sound or bilingual programs of NICAM and A2 stereo systems by using the A/B button.



When receiving a NICAM program

Broadcasting	On-screen display (Selected sound)
NICAM stereo	NICAM (Stereo sound) → MONO (Regular sound)
NICAM bilingual	NICAM MAIN (Main sound) → NICAM SUB (Sub sound) → MONO (Regular sound)
NICAM monaural	NICAM MAIN (Main sound) → MONO (Regular sound)

When receiving an A2 program

Broadcasting	On-screen display (Selected sound)
A2 stereo	STEREO (Stereo sound) → MONO (Regular sound)
A2 bilingual	MAIN (Main sound) → SUB (Sub sound)

Notes

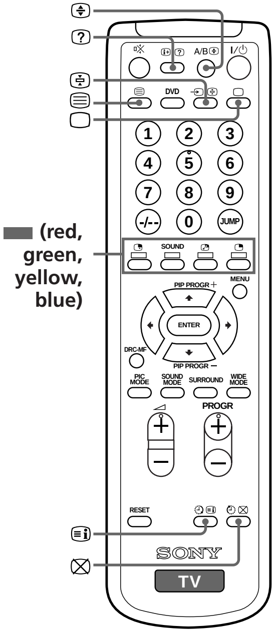
- If the stereo sound is noisy when receiving a stereo program, select “MONO”. The sound becomes monaural, but the noise is reduced.
- If the sound is distorted when receiving a monaural program through ⫪ (antenna input), press A/B repeatedly until “MONO” appears on the screen. To cancel the monaural sound setting, press A/B again until “AUTO” appears on the screen.

■ Viewing Teletext

▶ KV-DR34M69 only

Some TV stations broadcast an information service called Teletext which allows you to receive various information, such as stock market reports and news.

You can use the buttons on the remote to view Teletext.



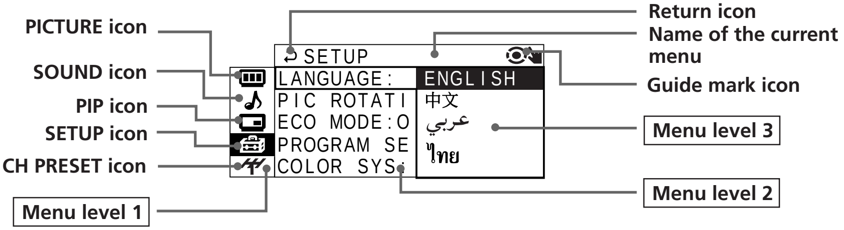
To	Do this
display a Teletext page on the TV picture	Press ≡. Each time you press ≡, the screen changes as follows: Teletext → Teletext and TV → TV. If there is no Teletext broadcast, "100" is displayed at the top left corner of the screen.
check the contents of a Teletext service	Press ≡i. An overview of the Teletext contents, including page numbers, appears on the screen.
select a Teletext page	Press the number buttons to enter the three-digit page number of the desired Teletext page. If you make a mistake, reenter the correct page number. To access the next or previous page, press PROGR +/–.
hold (pause) a Teletext display	Press ⊟ to display the symbol "⊟" at the top left corner of the screen. To resume normal Teletext viewing, press ⊟ or ≡.
reveal concealed information (e.g., an answer to a quiz)	Press ?. To conceal the information, press the button again.
enlarge the Teletext display	Press ⇕. Each time you press ⇕, the Teletext display changes as follows: Enlarge upper half → Enlarge lower half → Normal size.
stand by for a Teletext page while watching a TV program	1 Enter the Teletext page number that you want to refer to, then press ⊠. 2 When the page number is displayed, press ≡ to show the text.
select a FASTEXT menu or the colored boxes	Press ▬ (red, green, yellow and blue) that corresponds to the desired menu or page number.
turn off Teletext	Press ▢.

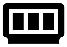
Note

- The FASTEXT feature can be used only when the FASTEXT broadcast is available.

Introducing the menu system

The MENU button lets you open a menu and change the settings of your TV. The following is an overview of the menu system.



Level 1	Level 2	Level 3/Function	Page
"PICTURE" 	"DRC-MF"	Select the "DRC-MF" mode: "DRC1250" → "PROGRESSIVE"	21
	"PICTURE MODE"	Select the picture mode: "DYNAMIC" → "STANDARD" → "HI-FINE" → "PERSONAL" → "ADJUST"	
	"ADJUST"	Adjust the "PERSONAL" option: "PICTURE" → "COLOR" → "BRIGHT" → "HUE" → "SHARP"	
	"3D-NR"	Reduce picture noise: "ON" → "OFF"	
	"WIDE MODE"	Change the picture size.	
	"GAME MODE"	Adjust the picture settings for video games.	
"SOUND"	"SOUND MODE"	Select the sound mode: "DYNAMIC" → "DRAMA" → "SOFT" → "PERSONAL" → "ADJUST"	23
	"ADJUST"	Adjust the "PERSONAL" option: "BASS" → "TREBLE" → "BALANCE" → "BBE"*	
	"SURROUND"	Select the "SURROUND" mode: "TruSurround" → "SIMULATED" →"OFF"	
	"INTELLIGENT VOL"	Adjust volume automatically.	
"PIP" (KV-DR34M69 only)	"POSITION"	Change the position of the sub screen.	25
	"PIP"	Display a sub screen within the main picture.	
	"SWAP"	Exchange pictures between main screen and sub screen.	

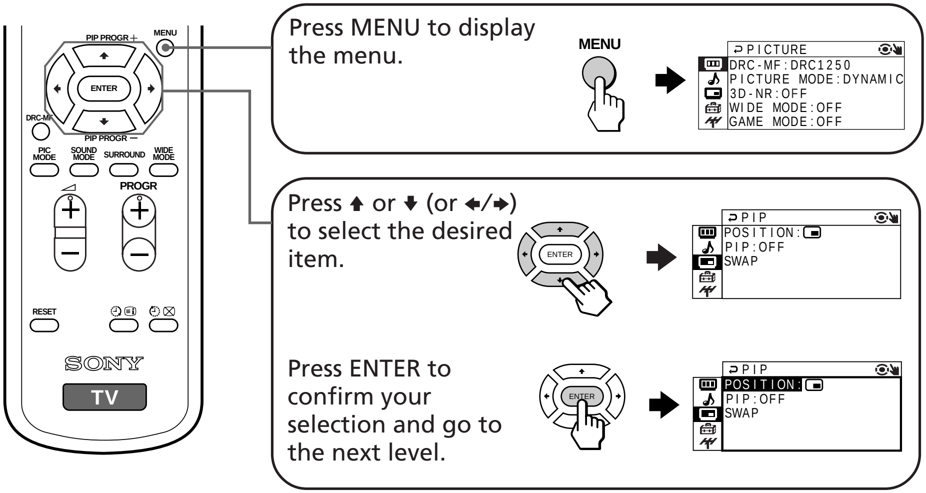
Level 1	Level 2	Level 3/Function	Page
"SETUP"	"LANGUAGE"	Change the menu language: "ENGLISH" → "中文"(Chinese) → "عربي"(Arabic) → "ไทย"(Thai)	26
	"PIC ROTATION"	Adjust the picture position.	
	"ECO MODE"	Reduce power consumption of your TV.	
	"PROGRAM SETUP"	Adjust each program number settings.	
	"COLOR SYS"	Select the color system: "AUTO" →" PAL" → "SECAM" → "NTSC3.58" → "NTSC4.43"	
"CH PRESET"	"AUTO PROGRAM"	Preset channels automatically.	28
	"MANUAL PROGRAM"	Preset channels manually.	
	"TV SYS"	Select the TV system: "B/G" → "I" → "D/K" → "M"	

* The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word "BBE" and the BBE symbol are the trademarks of BBE Sound, Inc.

continue

continued

How to use the menu



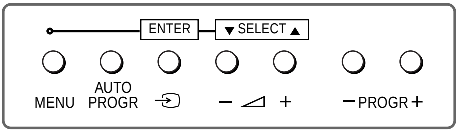
Other menu operations

To	Press
Adjust the setting value	↑, ↓, ← or →.
Move to the next/previous menu level	← or →.
Cancel the menu	MENU.

Tips

- If you want to exit from Menu level 2 to Menu level 1, press ↑ or ↓ until the return icon (⮐) is highlighted, then press ENTER.
- Some of the menu items can be operated directly using the remote buttons.
- The MENU, ENTER, and SELECT ▼/▲ buttons on the TV can also be used for the operations above.

Front of TV

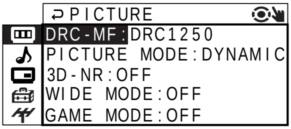


■ Changing the "PICTURE" setting

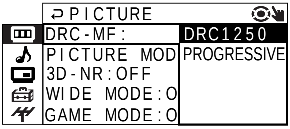
The "PICTURE" menu allows you to adjust the picture settings.

1 Press MENU.

2 Make sure the "PICTURE" icon ( ) is selected, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "DRC-MF"), then press ENTER.



Select	To
"DRC-MF"	choose either "DRC1250" or "PROGRESSIVE" (see page 12).
"PICTURE MODE"	choose either "DYNAMIC", "STANDARD", "HI-FINE", "PERSONAL"*, or "ADJUST" (see page 11).
"3D-NR"	adjust picture signal automatically to reduce noise. Press ↑ or ↓ to select "ON", then press ENTER. To cancel, select "OFF", then press ENTER.
"WIDE MODE"	choose either "ON" or "OFF" (see page 12).
"GAME MODE"	adjust the picture setting that is suitable to view video games. Press ↑ or ↓ to select "ON", then press ENTER. To cancel, select "OFF", then press ENTER.

* When the "PERSONAL" mode is selected, you can receive the last adjusted picture settings from the "ADJUST" option (see page 22).

Notes

- "GAME MODE" is available only when receiving signals through (video input), (S video input), or (component video input).
- The DRC-MF mode is not selectable when GAME MODE is turned on.

continue

continued

Adjusting the “ADJUST” items under “PICTURE MODE”

1 Press ↑ or ↓ to select the desired item (e.g.,“COLOR”), then press ENTER.

2 Adjust the value according to the following table, then press ENTER.

For	Press ↓ or ← to	Press ↑ or → to
“PICTURE”	decrease picture contrast.	increase picture contrast.
“COLOR”	decrease color intensity.	increase color intensity.
“BRIGHT”	darken the picture.	brighten the picture.
“HUE”	increase red picture tones.	increase green picture tones.
“SHARP”	soften the picture.	sharpen the picture.

Notes
- “HUE” can be adjusted for the NTSC color system only.
- Reducing sharpness (“SHARP”) can also reduce picture noise.

3 Repeat the above steps to adjust other items.

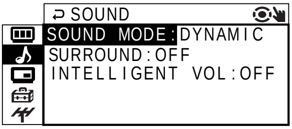
The adjusted settings will be received when you select “PERSONAL”.

■ Changing the "SOUND" setting

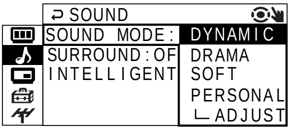
The "SOUND" menu allows you to adjust the sound settings.

1 Press MENU.

2 Press ↑ or ↓ to select the "SOUND" icon (♪), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "SOUND MODE"), then press ENTER.



Select	To
"SOUND MODE"	choose either "DYNAMIC", "DRAMA", "SOFT", "PERSONAL"*, or "ADJUST" (see page 11).
"SURROUND"	choose either "TruSurround", "SIMULATED" or "OFF" (see page 14).
"INTELLIGENT VOL"	adjust the volume of all program numbers and video inputs automatically. Press ↑ or ↓ to select "ON", then press ENTER. To cancel, select "OFF", then press ENTER.

* When the "PERSONAL" mode is selected, you can receive the last adjusted sound settings from the "ADJUST" option (see page 24).

continue

continued

Adjusting the "ADJUST" items under "SOUND MODE"

1 Press ↑ or ↓ to select the desired item (e.g., "BALANCE"), then press ENTER.

2 Adjust the value according to the following table, then press ENTER .

For	Press ↓ or ← to	Press ↑ or → to
"BASS"	decrease the bass.	increase the bass.
"TREBLE"	decrease the treble.	increase the treble.
"BALANCE"	increase the left speaker's volume.	increase the right speaker's volume.
"BBE"	select "HIGH" for higher enhancement of sound clarity; select "LOW" for lower enhancement of sound clarity; select "OFF" to cancel BBE sound.	

3 Repeat the above steps to adjust other items.

The adjusted settings will be received when you select "PERSONAL".

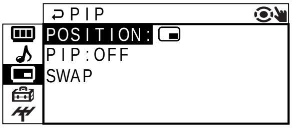
Changing the Picture-in-Picture ("PIP") setting

▶ KV-DR34M69 only

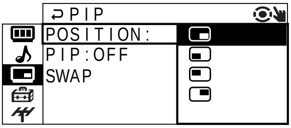
The "PIP" menu allows you to display a sub screen, change the sub screen position and exchange pictures between the main and sub screens.

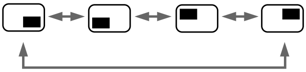
1 Press MENU.

2 Press ⬆ or ⬇ to select the "PIP" icon (▭), then press ENTER.



3 Press ⬆ or ⬇ to select the desired item (e.g., "POSITION"), then press ENTER.



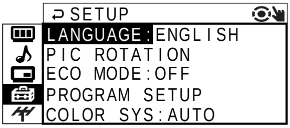
Select	To
"POSITION"	change the position of the sub screen. Press ⬆ or ⬇ to select the desired position, then press ENTER . 
"PIP"	display a sub screen. Press ⬆ or ⬇ to select "ON", then press ENTER . To cancel, press ◔ or select "OFF", then press ENTER .
"SWAP"	exchange pictures between the main screen and sub screen.

Changing the "SETUP" setting

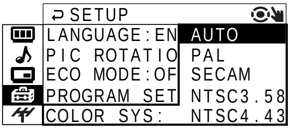
The "SETUP" menu allows you to change the menu language, adjust the picture position, reduce your TV power consumption, set up your program numbers and select the color system.

1 Press MENU.

2 Press ↑ or ↓ to select the "SETUP" icon ( ), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "COLOR SYS"), then press ENTER.

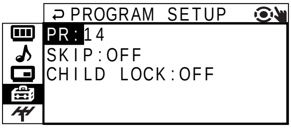


Select	To
"LANGUAGE"	change the menu language. Press ↑ or ↓ to select either "ENGLISH", "中文" (Chinese), "عربي" (Arabic), or "ไทย" (Thai) then press ENTER. The selected menu language appears.
"PIC ROTATION"	adjust the picture position when it is not aligned with the TV screen. Press ↑, →, ↓ or ← to adjust the picture position, then press ENTER.
"ECO MODE"	reduce power consumption of your TV to save energy. Press ↑ or ↓ to select "ON", then press ENTER. To cancel, select "OFF", then press ENTER. When you press ( ) or turn on the TV, ECO MODE ( ) symbol will appear on the screen for about 40 seconds.
"PROGRAM SETUP"	adjust each channel settings (see **Adjusting each program number settings ("PROGRAM SETUP")** on page 27).
"COLOR SYS"	Select the color system. Normally, set this to "AUTO".

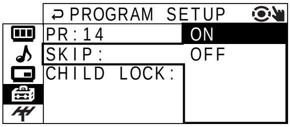
Adjusting each program number settings ("PROGRAM SETUP")

1 Select "PROGRAM SETUP" from the "SETUP" menu.

2 Select "PR" and press ENTER. Press ↑ or ↓ to select the desired program number you want to adjust, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "SKIP"), then press ENTER.



Select	To
"PR"	select the desired program number.
"SKIP"	skip unwanted or unused program number. Press ↑ or ↓ to select "ON", then press ENTER. To cancel, select "OFF", then press ENTER.
"CHILD LOCK"	prevent children from watching this selected program number. Press ↑ or ↓ to select "ON", then press ENTER. The lock symbol ( ) appears on the screen. To cancel, select "OFF", then press ENTER If you preset a locked program number, that program number will be unlocked automatically.

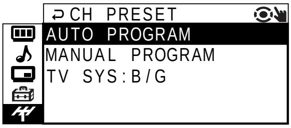
4 To continue adjusting other program numbers, press ↑ or ↓ to select "PR", then repeat step 2 and 3.

Changing the Channel Preset ("CH PRESET") setting

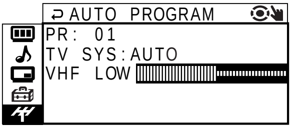
The "CH PRESET" menu allows you to preset channels automatically, manually preset channels and select the TV system.

1 Press MENU.

2 Press ↑ or ↓ to select the "CH PRESET" icon ( ), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "AUTO PROGRAM"), then press ENTER.

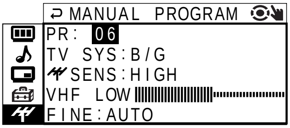


Select	To
"AUTO PROGRAM"	preset channels automatically.
"MANUAL PROGRAM"	manually preset desired channels and channels that cannot be preset automatically (see **Presetting channels manually** on page 29).
"TV SYS"	select the TV system. Press ↑ or ↓ to select either "B/G", "I", "D/K" or "M", then press ENTER.

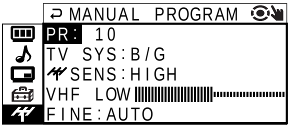
Presetting channels manually

1 After selecting “MANUAL PROGRAM”, select the program number to which you want to preset a channel.

(1) Make sure “PR” is selected, then press ENTER.



(2) Press ⬆ or ⬇ until the program number you want to preset (e.g., program number “10”) appears on the menu, then press ENTER.

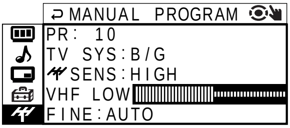


Tip

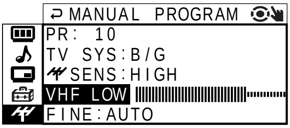
- You can also select the program number with the PROGR +/– or number buttons.

2 Select the desired channel.

(1) Press ⬆ or ⬇ to select either “VHF LOW”, “VHF HIGH”, or “UHF”, then press ENTER.

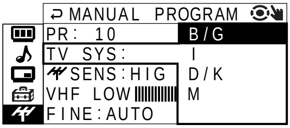


(2) Press ⬆ or ⬇ until the desired channel’s broadcast appears on the TV screen, then press ENTER.

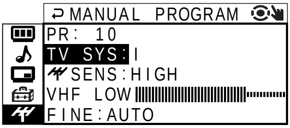


3 If the sound of the desired channel is abnormal, select the appropriate TV system.

(1) Press ⬆ or ⬇ to select “TV SYS”, then press ENTER.



(2) Press ⬆ or ⬇ until the sound becomes normal, then press ENTER.

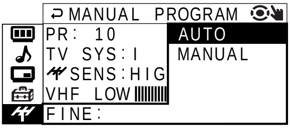


continue

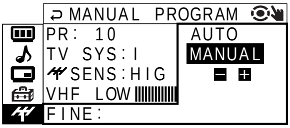
continued

4 If you are not satisfied with the picture and sound quality, you may be able to improve them by using the “FINE” tuning feature.

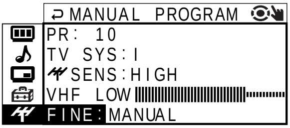
(1) Press ↑ or ↓ to select “FINE”, then press ENTER.



(2) Press ↑ or ↓ to select “MANUAL”, then press ENTER.

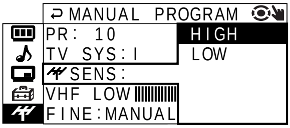


(3) Press ↑, ↓, ← or → until the picture and sound quality are optimal, then press ENTER.
The + or – icon on the menu flashes while tuning.

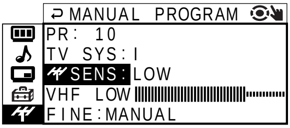


5 If the TV signal is too strong and the picture is distorted, you can adjust the TV reception sensitivity.

(1) Press ↑ or ↓ to select “SENS”, then press ENTER.



(2) Press ↑ or ↓ to select “LOW”, then press ENTER.

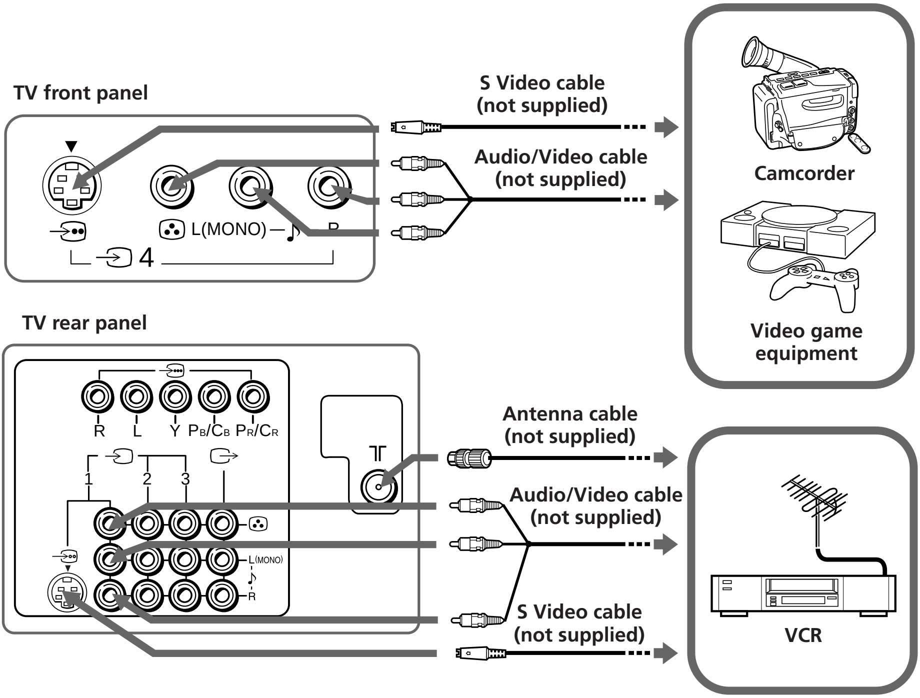


Notes

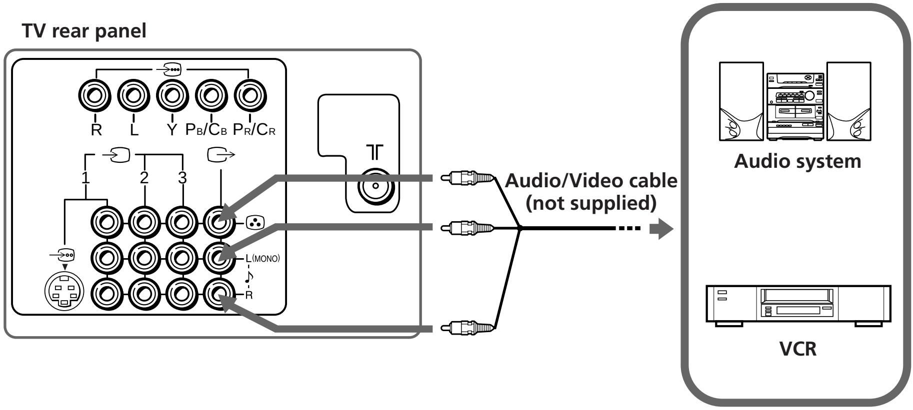
- If you connect a VCR to (antenna input), preset the signal output from the VCR to the program number 0 on the TV.
- “SENS” is available for KV-DR34M69 only.

■ Connecting optional components

Connecting to the video input terminal (⇥)



Connecting to the monitor output terminal (⇥)



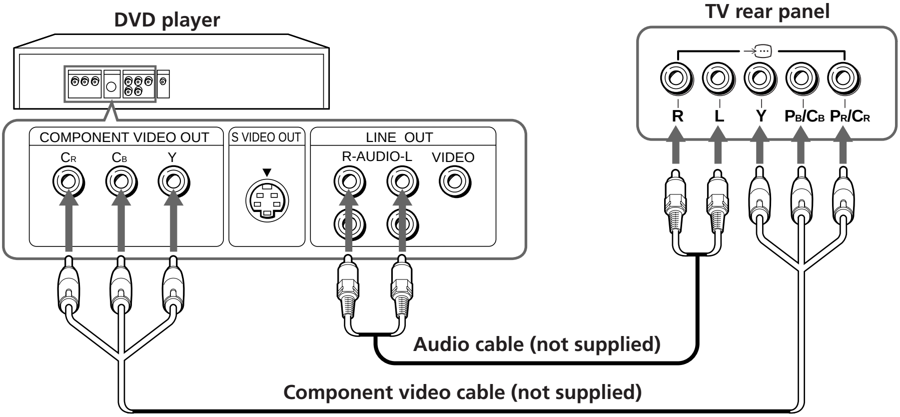
continue

Connecting a DVD player to the component video input terminal (⇥)

1 Using an audio cable, connect R and L under ⇥ (component video input) on your TV to the LINE OUT, AUDIO R and L output connectors on your DVD player.

2 Using a component video cable, connect Y, PB/CB, and PR/CR under ⇥ (component video input) on your TV to the COMPONENT VIDEO OUT Y, CB, and CR output connectors on your DVD player.

3 Press DVD on the remote to watch the ⇥ (component video input) and "DVD" will appear on your screen.



Notes

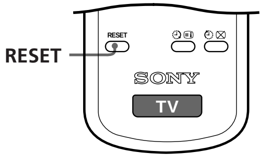
- Some DVD player terminals may be labeled differently:

Connect	To (on the DVD player)
Y (green)	Y
PB/CB (blue)	CB, PB, Cb or B-Y
PR/CR (red)	CR, PR, Cr or R-Y

- When both ⇥ (S video) and ⦿ (video) for ⇥ 1 or ⇥ 4 are connected at the same time, ⇥ (S video) is automatically selected. To view ⦿ (video), disconnect the S video cable.
- If you select "DVD" on your TV screen, the signal from the ⇨ (monitor output) will not be output properly. This does not indicate a malfunction.
- When receiving a progressive signal through the ⇥ (component video input), "PIP" is not available, and "DRC-MF" and "GAME MODE" are not selectable.

Troubleshooting

If you have any problem while viewing your TV, you can either use the Reset function or check the Troubleshooting guide below. If the problem persists, contact your Sony dealer.

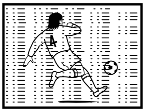
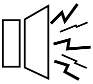
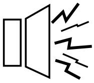
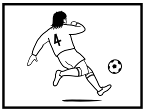
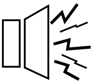


Reset function

Press the RESET button on your remote control. Your TV will go blank for about half a second then the picture will reappear with "RESET" displayed on your TV screen for about 10 seconds.

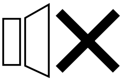
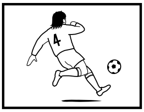
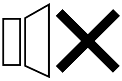
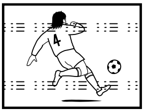
Pressing RESET will set your TV to the factory setting, but certain problems may be solved.

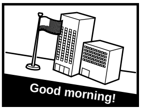
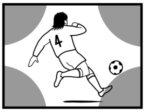
Troubleshooting guide

Symptom	Possible cause	Solutions	Page
Snowy picture 	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and at the wall.	31
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
Noisy sound 	• Channel presetting is inappropriate or incomplete.	• Display the "CH PRESET" menu and select "MANUAL PROGRAM" to preset the channel again.	29
	• Signal transmission is low.	• Try using a booster.	–
Distorted picture **Noisy sound** 	• Broadcast signals are too strong.	• Display the "CH PRESET" menu and select "MANUAL PROGRAM". Then, select " SENS: LOW" (KV-DR34M69 only). • Turn off or disconnect the booster if it is in use.	30 –
Good picture  **Noisy sound** 	• The TV system setting is inappropriate.	• Display the "CH PRESET" menu and select the appropriate TV system ("TV SYS").	29
	• PIP sound is selected when PIP is displayed.	• Press SOUND or (KV-DR34M69 only).	13

continue

continued

Symptom	Possible cause	Solutions	Page
No picture **No sound** 	• The power cord, antenna or VCR is not connected.	• Check the power cord, antenna and VCR connections.	31
	• The TV is not turned on.	• Press I/⏻ (power). • Press ⏼ (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	9 8
Good picture  **No sound** 	• The volume level is too low.	• Press ◿ + to increase the volume level.	9
	• The sound is muted. • PIP sound is selected when PIP is displayed.	• Press 🔇 to cancel the muting. • Press SOUND or ◳ (KV-DR34M69 only).	9 13
Dotted lines or stripes 	• There is local interference from cars, neon signs, hair dryers, power generators, etc.	• Do not use a hair dryer or other equipment near the TV. • Check the antenna setup. Contact a Sony dealer for advice.	– –
Double images or "ghosts" 	• Broadcast signals are reflected by nearby mountains or buildings.	• Use a highly directional antenna. • Use the fine tuning ("FINE") function.	– 30
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
	• Use of a booster is inappropriate.	• Turn off or disconnect the booster if it is in use.	–
No color 	• The color level setting is too low.	• Display the "PICTURE" menu and select "ADJUST" of "PICTURE MODE", then adjust the "COLOR" level.	22
	• The color system setting is inappropriate.	• Display the "SETUP" menu and check the color system ("COLOR SYS") setting (usually set this to "AUTO").	26
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–

Symptom	Possible cause	Solutions	Page
Picture slant 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. • Display the "SETUP" menu and adjust "PIC ROTATION" so that the picture position is optimal.	– 26
Abnormal color patches 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏻ (main power) on the TV to turn off the TV for about 15 minutes, then turn it on again to demagnetize the TV.	–
TV cannot receive stereo broadcast sound.	• The stereo reception setting is inappropriate.	• Press A/B until "AUTO" appears on the screen.	16
or	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and on the wall.	31
Stereo broadcast sound switches on and off or is distorted.	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
"100" appears at the top of the screen and there is no Teletext display (KV-DR34M69 only).	• The channel carries no Teletext broadcast.	—	17
Teletext display is incomplete (snowy picture or double images) (KV-DR34M69 only).	• Connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR, and at the wall.	31
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
	• Signal transmission is too low.	• Try using a booster. • Use the fine tuning ("FINE") function.	– 30

continue

continued

Symptom	Possible cause	Solutions	Page
The ⏻ (standby) indicator on your TV flashes red several times after every three seconds.	• Your TV's self-diagnosis function indicates the possible problems.	• Count the number of times the ⏻ (standby) indicator flashes. Press ⓘ (main power) to turn off your TV. Contact your nearest Sony service center.	–
Cannot play shooting games.	• Some shooting games which involve pointing a light beam at the TV screen with an electronic gun or rifle cannot be used with your TV. For details, see the instruction manual supplied with the video game software.	—	–
TV cabinet creaks.	• Changes in room temperature sometimes make the TV cabinet expand or contract, causing a noise. This does not indicate a malfunction.	—	–
A small "boom" sound is heard when the TV is turned on.	• The TV's demagnetizing function is working. This does not indicate a malfunction.	—	–

Specifications

	KV-DR34M69	KV-DR29M63	Note
Power requirements	220-240 V AC, 50/60 Hz		
Power consumption (W)	Indicated on the rear of the TV		
Television system	B/G, I, D/K, M		
Color system	PAL, PAL 60, SECAM, NTSC3.58, NTSC4.43		
Stereo/Bilingual system	NICAM Stereo/Bilingual B/G, I; A2 Stereo/Bilingual B/G		
Teletext language	English, Arabic, French, Persian		KV-DR34M69 only
Channel coverage **B/G**	VHF : E2 to E12 UHF : E21 to E69 CATV : S01 to S03, S1 to S41		
I	UHF : B21 to B68 CATV : S01 to S03, S1 to S41		
D/K	VHF : C1 to C12, R1 to R12 UHF : C13 to C57, R21 to R60 CATV : S01 to S03, S1 to S41, Z1 to Z39		
M	VHF : A2 to A13 UHF : A14 to A79 CATV : A-8 to A-2, A to W+4, W+6 to W+84		
(Antenna)	75-ohm external terminal		
Audio output (Speaker)	6W + 6W		
3D WOOFER	15W		
Number of terminal **(Video)**	Input: 4 Output: 1 Phono jacks; 1 Vp-p, 75 ohms		
(Audio)	Input: 4 Output: 1 Phono jacks; 500 mVrms		
(S Video)	Input: 2 Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms		
(Component Video)	Input: 1 Phono jacks; Y: 1 Vp-p, 75 ohms, sync negative P_B/C_B: 0.7 Vp-p, 75 ohms P_R/C_R 0.7 Vp-p, 75 ohms Audio: 500 mVrms		
(Headphone)	Output: 1 Stereo minijack		
Picture tube	34 in.	29 in.	
Tube size (cm)	86	72	Measured diagonally
Screen size (cm)	80	68	Measured diagonally
Dimensions (w/h/d, mm)	894 × 690 × 569	786 × 596 × 514	
Mass (kg)	85	57	

Design and specifications are subject to change without notice.

Sony Thai Co., Ltd.
2126 Kromadit Building, New Petchburi Road,
Bangkapi, Huaykwang, Bangkok 10320

http://www.sony.net/

Sony Corporation

SONY®

4-088-512-**11** (1)

Trinitron Color TV

Operating Instructions

GB

- Before operating the unit, please read this manual thoroughly and retain it for future reference.

使用說明書

CT

- 使用本電視機之前請先詳細閱讀此手冊，並妥善保存以備日後用作參考。

Panduan Pengendalian

MY

- Sebelum mengendalikan unit, sila baca buku panduan ini dengan teliti dan simpan untuk rujukan masa depan.

FD Trinitron

WEGA

KV-DR34
KV-DR29

M69

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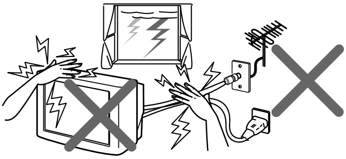
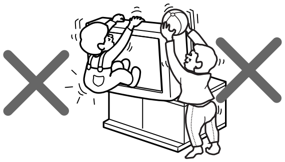
WARNING

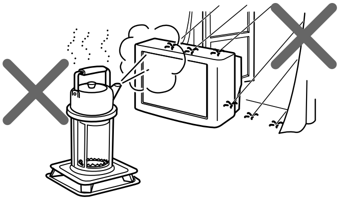
- Dangerously high voltages are present inside the TV.
- TV operating voltage: 110 – 240 V AC.
- Do not plug in the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage and damage to the remote, remove the batteries from the remote if you are not going to use it for several days. If any liquid leaks from the batteries and touches your skin, immediately wash it away with water.



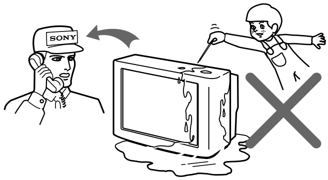
For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.



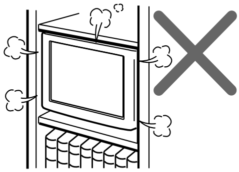
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



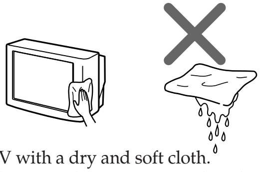
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



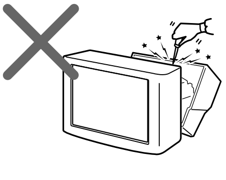
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



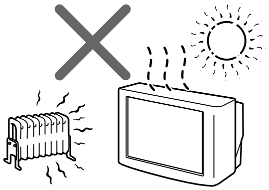
Do not block the ventilation openings of the TV. Do not install the TV in a confined space, such as a bookcase or built-in cabinet.



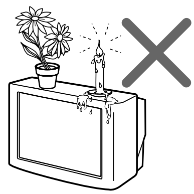
Clean the TV with a dry and soft cloth.
Do not use benzine, thinner, or any other chemicals to clean the TV. Do not attach anything (e.g., adhesive tape, cellophane tape, glue) on the painted cabinet of the TV. Do not scratch the picture tube.



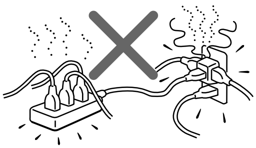
Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



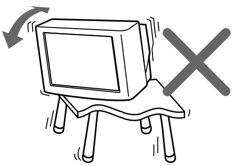
Your TV is recommended for home use only.
Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.



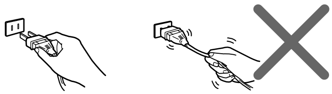
Do not place any objects on the TV.



Do not plug in too many appliances to the same power socket. Do not damage the power cord.



Install the TV on a stable TV stand and floor which can support the TV set weight. Ensure that the TV stand surface is flat and its area is larger than the bottom area of the TV.

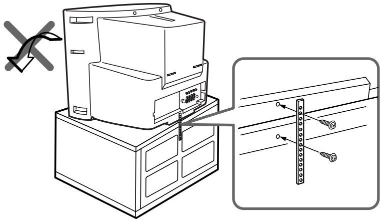


Pull the power cord out by the plug. Do not pull the power cord itself. Even if your TV is turned off, it is still connected to the AC power source (mains) as long as the power cord is plugged in. Unplug the TV before moving it or if you are not going to use it for several days.

Securing the TV

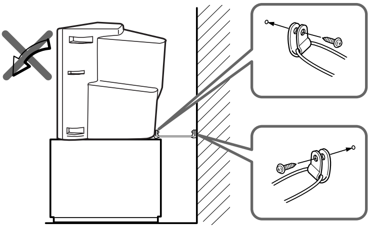
To prevent the TV from falling, use the supplied screws, clamps and band to secure the TV.

screws **clamps** **band**



Screw the band to the TV stand and to the provided hole at the rear of your TV.

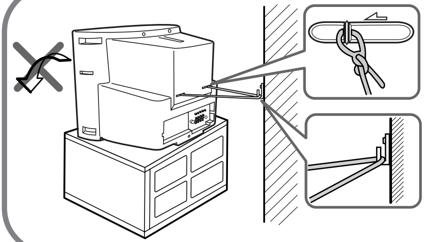
or



(1) Put a cord or chain through the clamps.

(2) Screw one clamp to a wall or pillar and the other clamp to the provided hole at the rear of your TV.

or



(1) Attach each end of a cord or chain to the provided holders at the rear of your TV.

(2) Securely fix the attached cord or chain to a wall or pillar using an attachment which can support the TV set weight.

Note

- Use only the supplied screws. Use of other screws may damage the TV.

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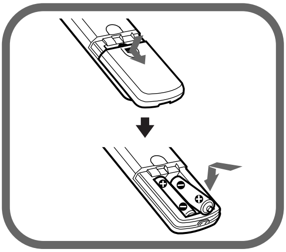
GB

Getting Started

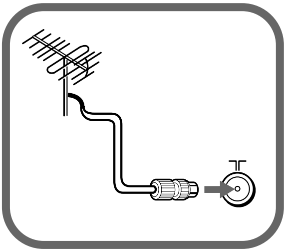


Step 1

Insert the batteries (supplied) into the remote.

Note

- Do not use old or different types of batteries together.

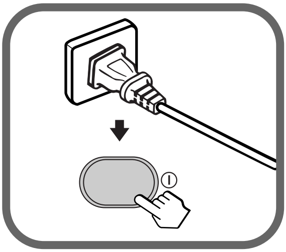


Step 2

Connect the antenna cable (not supplied) to ⊤⊤ (antenna input) at the rear of the TV.

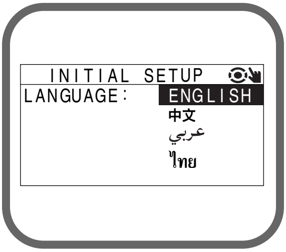
Tip

- You can also connect your TV to other optional components (see page 31).



Step 3

Plug in the power cord, then press ⏽ on the TV to turn it on.

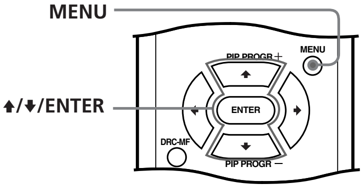


Step 4

Set up the TV by following the instructions of the "INITIAL SETUP" menu (see page 7).

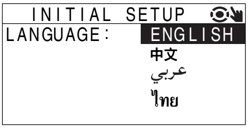
Setting up your TV ("INITIAL SETUP")

When you turn on your TV for the first time, the "INITIAL SETUP" menu will appear. This menu allows you to change the menu language, adjust the picture position and preset the TV channels automatically.



1 Press ↑ or ↓ to select the desired menu language (e.g.,"ENGLISH"), then press ENTER.

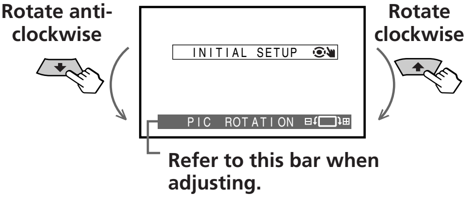
The selected menu language appears.



2 If the "PIC ROTATION" bar is slanted, press ↑ or ↓ to adjust it, then press ENTER.

If no adjustment is necessary, then press ENTER.

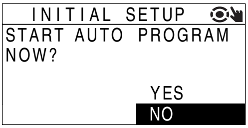
The ⊞ or ⊟ icon on the screen flashes while adjusting.

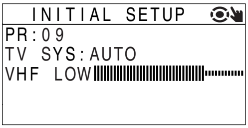


3 Press ↑ or ↓ to select "YES", then press ENTER to preset the channels automatically (see page 28).

The screen will indicate automatic presetting is in progress.

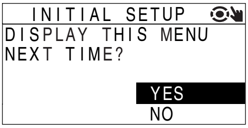
To skip automatic channel presetting, select "NO", then press ENTER.





4 Press ↑ or ↓ to select "NO", then press ENTER. The "INITIAL SETUP" menu will not appear again the next time you turn on the TV by pressing ①.

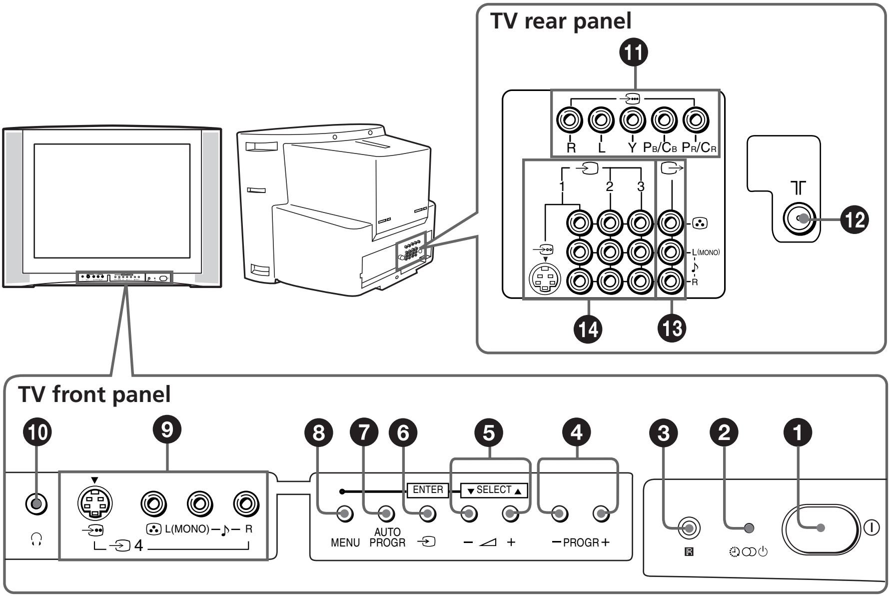
To allow this menu to appear again, select "YES", then press ENTER.



Tip

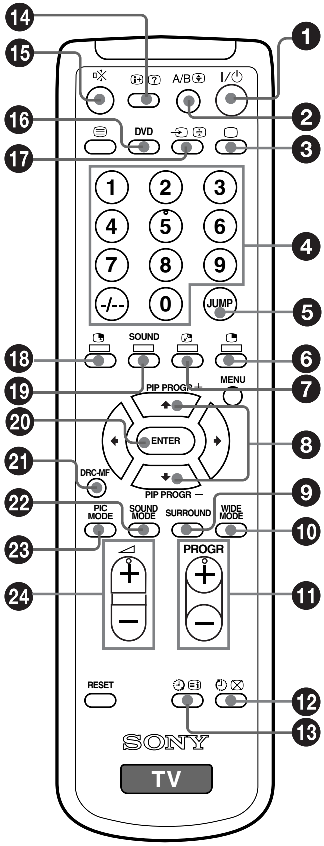
- You can immediately go to the end of the "INITIAL SETUP" menu by pressing MENU.
- You can also set up your TV using the menu system (see page 18).

TV front and rear panels



Button/Terminal	Function	Page
1 ⏽	Turn off or turn on the TV.	–
2 ⏻	Standby indicator.	–
2 ◷	Wake Up indicator.	15
2 ⚭	Stereo/bilingual indicator.	16
3 ℝ	Remote control sensor.	–
4 PROGR +/–	Select program number.	–
5 ◺ +/–	Adjust volume.	–
6 ⊣→	Select TV or video input.	–
7 AUTO PROGR	Preset channels automatically.	–
Menu operations		
5 SELECT ▼/▲	Select and adjust items	20
6 ENTER	Confirm selected items	20
8 MENU	Display or cancel the menu	20
9 ⊣→4	Video input terminal 4.	31
10 🎧	Headphone jack.	–
11 ⊣→•••	Component video input terminal.	32
12 ╥	Antenna input terminal.	31
13 ⊢→	Monitor output terminal.	31
14 ⊣→1, ⊣→2, ⊣→3	Video input terminal 1, 2, 3.	31

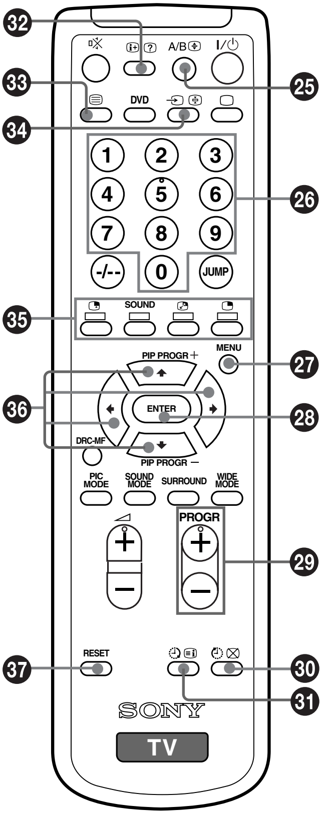
■ Remote control



Button	Function	Page
1 I/⏻	Turn off temporarily or turn on the TV.	–
3 ▢	Display the TV input.	–
4 0 – 9, -/--	Input numbers.	–
5 JUMP	Jump to previous program number.	–
9 SURROUND	Select surround mode.	14
10 WIDE MODE	Select wide-mode (16:9).	12
11 PROGR +/–	Select program number.	–
14 (i+)	Display on-screen information.	–
15 (mute)	Mute the sound.	–
16 DVD	Select component video input.	32
17 (input)	Select TV or video input.	31
21 DRC-MF	Select DRC-MF mode.	12
22 SOUND MODE	Select sound mode.	11
23 PIC MODE	Select picture mode.	11
24 ◿ +/–	Adjust volume.	–
Timer operations		
12 (timer off)	Set TV to turn off automatically.	15
13 (timer on)	Set TV to turn on automatically.	15
PIP operations (yellow label)		
6 (sub screen)	Display a sub screen.	13
7 (swap)	Swap main and sub screens.	13
8 PIP PROGR +/ PIP PROGR –	Display and change programs in the sub screen.	13,14
18 (sub input)	Select a video input in the sub screen.	13
19 SOUND	Swap sound between main and sub screen.	13
20 ENTER	Change sub screen to main screen.	14
Stereo/bilingual operations		
2 A/B	Select stereo/bilingual mode.	16

continue

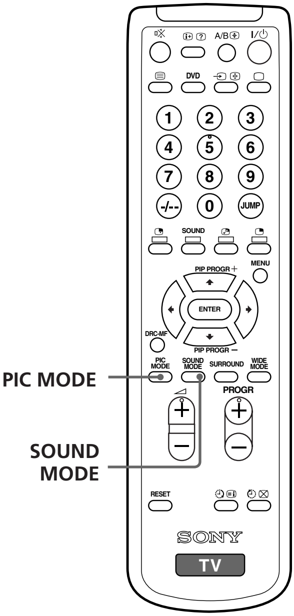
continued



Button		Function	Page
Menu operations			
27	MENU	Display or cancel the menu.	20
28	ENTER	Confirm selected items.	20
36	↑, ↓, ←, →	Select and adjust items.	20
Teletext operations (green label)			
25		Enlarge the Teletext display.	17
26	0 – 9	Input Teletext page number	17
29	PROGR +/–	Display the next or previous page.	17
30	⊠	Show TV screen while waiting for Teletext page.	17
31		Display Teletext service contents.	17
32	?	Reveal concealed information.	17
33		Display Teletext broadcast.	17
34		Stop Teletext display from scrolling.	17
35	(red, green, yellow, blue)	Access a FASTEXT menu.	17
37	RESET	Set TV to factory setting.	33

Selecting the picture and sound modes

You can select picture and sound modes and adjust the setting to your preference in the “PERSONAL” option.



Selecting the picture mode

Press PIC MODE to select the desired picture mode.

Select	To
“DYNAMIC”	view high contrast pictures.
“STANDARD”	view normal pictures.
“HI-FINE”	view higher density pictures with mild contrast.
“PERSONAL”	receive the last adjusted picture setting from the “ADJUST” option in the “PICTURE” menu (see page 22).

Selecting the sound mode

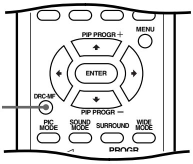
Press SOUND MODE to select the desired sound mode.

Select	To
“♪ DYNAMIC”	listen to dynamic and clear sound that emphasizes both the low and high tones.
“♪ DRAMA”	listen to sound that emphasizes voice and high tones.
“♪ SOFT”	listen to soft sound.
“♪ PERSONAL”	receive the last adjusted sound setting from the “ADJUST” option in the “SOUND” menu (see page 24).

Viewing higher quality pictures with DRC-MF

The Digital Reality Creation-Multi Function (DRC-MF) feature allows you to enjoy higher quality pictures on your TV. You can use the DRC-MF button to select "DRC1250" or "DRC PROGRESSIVE".

DRC-MF



Select	To
"DRC1250"	view super real (higher density) pictures.
"DRC PROGRESSIVE"	reduce jitter of any small areas or scanning lines (e.g., letters or the edge of objects) on the screen.

Note

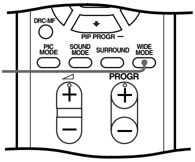
- The DRC-MF mode is not selectable when the "GAME MODE" or Picture-in-Picture ("PIP") mode is turned on.

The DRC-MF logo ( ) and "DRC-MF" are trademarks of Sony Corporation.

Viewing the picture in wide mode

When receiving a wide-mode (16:9) signal, the picture will appear "squeezed" (compressed) on your screen. Use the WIDE MODE button to view the picture with the optimal effect.

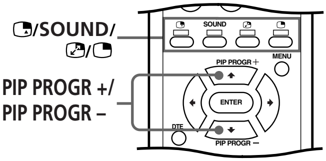
WIDE MODE



Select	To
"ON"	view the picture in wide-mode (16:9).
"OFF"	cancel wide-mode (16:9).

Watching Picture-in-Picture (PIP)

With the PIP feature, you can display two different TV programs or video input at the same time by using the button.



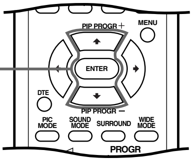
To	Press
Display a sub screen	. To cancel the sub screen, press the button again.
Change a program number in the sub screen	PIP PROGR + or PIP PROGR –.
Select a video input in the sub screen	.
Swap pictures between the main and sub screens	.
Swap sound between the main and sub screens A "♪" symbol will appear next to the program number or video input display to indicate which screen you are hearing.	SOUND.

Notes

- The DRC-MF mode is not selectable when PIP is turned on.
- The picture and sound from the (monitor output) terminals will always be from the main screen, even when you select the sub screen sound by pressing SOUND (see page 31).

Selecting a TV program using PIP

You can select your desired TV program directly from the PIP sub screen by using PIP PROGR +/– buttons.

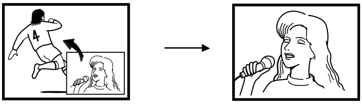


1 Press PIP PROGR +/– until the desired program appears in the sub screen.

2 Press ENTER to change the sub screen program to the main screen.

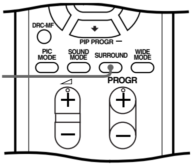
1

2



Listening with surround sound

You can use the SURROUND button to listen to the sound effects of a concert hall or movie theater.



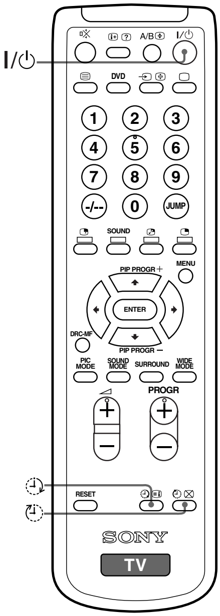
Select	To
"TruSurround"	listen to the surround sound that spreads out to the rear of a room.
"SIMULATED"	listen to monaural sound with a stereo-like effect.
"OFF"	cancel surround sound.

The surround of your TV is categorized as TruSurround.

TruSurround™ is a trademark of SRS Labs, Inc. SRS and the SRS symbol are registered trademarks of SRS Labs, Inc. in the United States and selected foreign countries. SRS and TruSurround are incorporated under license from SRS Labs, Inc. and are protected under United States Patent Nos. 4,748,669 and 4,841,572 with numerous additional issued and pending foreign patents.

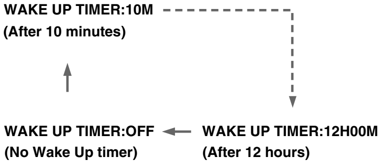
Setting the timers

You can set your TV to turn on and off automatically by using the WAKE UP and SLEEP timers respectively.



Setting the Wake Up timer

1 Press ⏲ until the desired period of time appears on the screen.



The Wake Up timer starts immediately after you have set it.

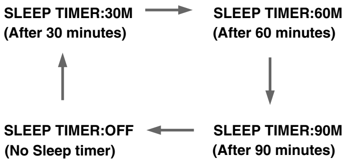
2 Select the program number or video input you want to wake up to.

3 Press I/⏻, or set the Sleep timer if you want the TV to turn off automatically.

The ⏲ indicator on the TV lights up orange when the TV goes into standby mode.

Setting the Sleep timer

Press ⏲ until the desired period of time appears on the screen.



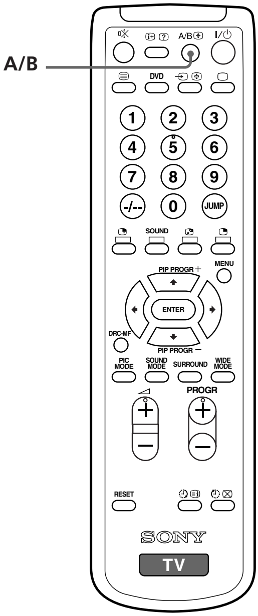
The Sleep timer starts immediately after you have set it.

Notes

- You can also cancel the Wake Up and Sleep timers by turning off the TV's main power.
- If no buttons are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into standby mode.

Enjoying stereo or bilingual programs

You can enjoy stereo sound or bilingual programs of NICAM and A2 stereo systems by using the A/B button.



When receiving a NICAM program

Broadcasting	On-screen display (Selected sound)
NICAM stereo	NICAM (Stereo sound) → MONO (Regular sound) → back to NICAM
NICAM bilingual	NICAM MAIN (Main sound) → NICAM SUB (Sub sound) → MONO (Regular sound) → back to NICAM MAIN
NICAM monaural	NICAM MAIN (Main sound) → MONO (Regular sound) → back to NICAM MAIN

When receiving an A2 program

Broadcasting	On-screen display (Selected sound)
A2 stereo	STEREO (Stereo sound) → MONO (Regular sound) → back to STEREO
A2 bilingual	MAIN (Main sound) → SUB (Sub sound) → back to MAIN

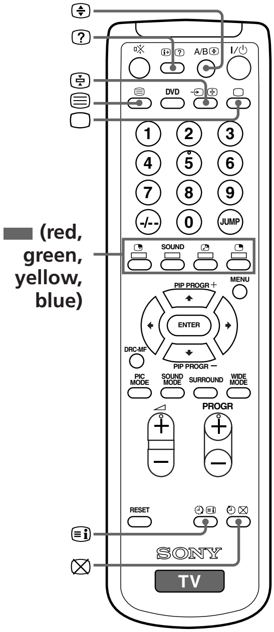
Notes

- If the stereo sound is noisy when receiving a stereo program, select "MONO". The sound becomes monaural, but the noise is reduced.
- If the sound is distorted when receiving a monaural program through ⫪ (antenna input), press A/B repeatedly until "MONO" appears on the screen. To cancel the monaural sound setting, press A/B again until "AUTO" appears on the screen.
- Your TV can only receive monaural sound when you select the PIP sub screen sound by pressing SOUND (see page 13).

Viewing Teletext

Some TV stations broadcast an information service called Teletext which allows you to receive various information, such as stock market reports and news.

You can use the buttons on the remote to view Teletext.



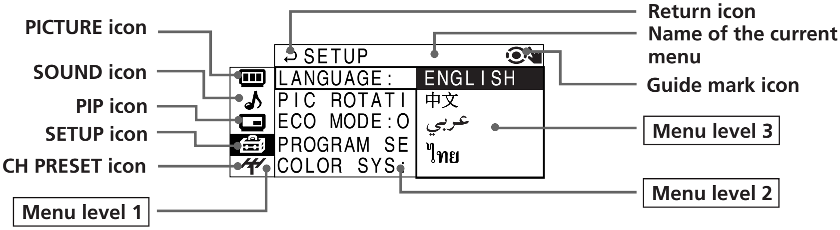
To	Do this
display a Teletext page on the TV picture	Press . Each time you press , the screen changes as follows: Teletext → Teletext and TV → TV. If there is no Teletext broadcast, "100" is displayed at the top left corner of the screen.
check the contents of a Teletext service	Press . An overview of the Teletext contents, including page numbers, appears on the screen.
select a Teletext page	Press the number buttons to enter the three-digit page number of the desired Teletext page. If you make a mistake, reenter the correct page number. To access the next or previous page, press PROGR +/–.
hold (pause) a Teletext display	Press to display the symbol "" at the top left corner of the screen. To resume normal Teletext viewing, press or .
reveal concealed information (e.g., an answer to a quiz)	Press . To conceal the information, press the button again.
enlarge the Teletext display	Press . Each time you press , the Teletext display changes as follows: Enlarge upper half → Enlarge lower half → Normal size.
stand by for a Teletext page while watching a TV program	1 Enter the Teletext page number that you want to refer to, then press . 2 When the page number is displayed, press to show the text.
select a FASTEXT menu or the colored boxes	Press (red, green, yellow and blue) that corresponds to the desired menu or page number.
turn off Teletext	Press .

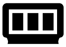
Note

- The FASTEXT feature can be used only when the FASTEXT broadcast is available.

Introducing the menu system

The MENU button lets you open a menu and change the settings of your TV. The following is an overview of the menu system.



Level 1	Level 2	Level 3/Function	Page
"PICTURE" 	"DRC-MF"	Select the "DRC-MF" mode: "DRC1250" → "PROGRESSIVE"	21
	"PICTURE MODE"	Select the picture mode: "DYNAMIC" → "STANDARD" → "HI-FINE" → "PERSONAL" → "ADJUST"	
	"ADJUST"	Adjust the "PERSONAL" option: "PICTURE" → "COLOR" → "BRIGHT" → "HUE" → "SHARP"	
	"3D-NR"	Reduce picture noise: "ON" → "OFF"	
	"WIDE MODE"	Change the picture size.	
	"GAME MODE"	Adjust the picture settings for video games.	
"SOUND"	"SOUND MODE"	Select the sound mode: "DYNAMIC" → "DRAMA" → "SOFT" → "PERSONAL" → "ADJUST"	23
	"ADJUST"	Adjust the "PERSONAL" option: "BASS" → "TREBLE" → "BALANCE" → "BBE"*	
	"SURROUND"	Select the "SURROUND" mode: "TruSurround" → "SIMULATED" →"OFF"	
	"INTELLIGENT VOL"	Adjust volume automatically.	
"PIP"	"POSITION"	Change the position of the sub screen.	25
	"PIP"	Display a sub screen within the main picture.	
	"SWAP"	Exchange pictures between main screen and sub screen.	

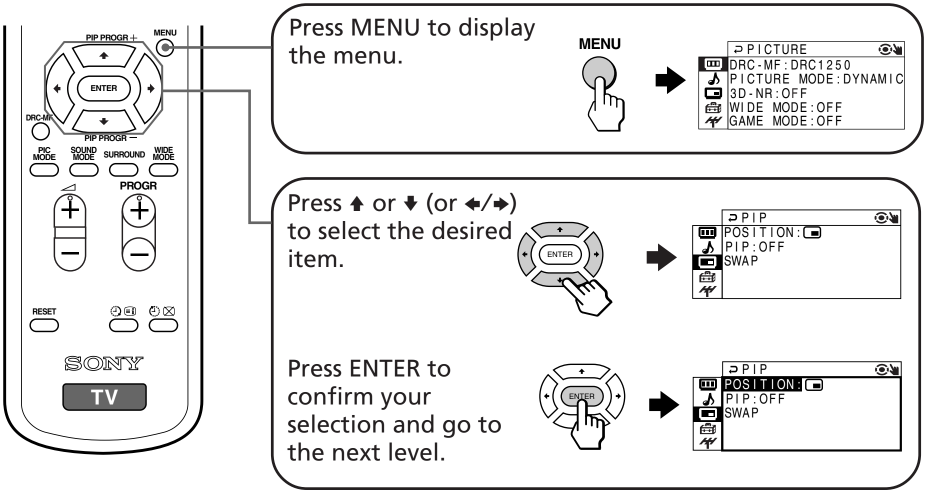
Level 1	Level 2	Level 3/Function	Page
"SETUP"	"LANGUAGE"	Change the menu language: "ENGLISH" → "中文"(Chinese) → "عربي"(Arabic) → "ไทย"(Thai)	26
	"PIC ROTATION"	Adjust the picture position.	
	"ECO MODE"	Reduce power consumption of your TV.	
	"PROGRAM SETUP"	Adjust each program number settings.	
	"COLOR SYS"	Select the color system: "AUTO" →" PAL" → "SECAM" → "NTSC3.58" → "NTSC4.43"	
"CH PRESET"	"AUTO PROGRAM"	Preset channels automatically.	28
	"MANUAL PROGRAM"	Preset channels manually.	
	"TV SYS"	Select the TV system: "B/G" → "I" → "D/K" → "M"	

* The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word "BBE" and the BBE symbol are the trademarks of BBE Sound, Inc.

continue

continued

How to use the menu



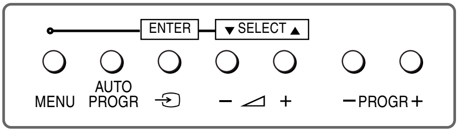
Other menu operations

To	Press
Adjust the setting value	↑, ↓, ← or →.
Move to the next/previous menu level	← or →.
Cancel the menu	MENU.

Tips

- If you want to exit from Menu level 2 to Menu level 1, press ↑ or ↓ until the return icon (⮐) is highlighted, then press ENTER.
- Some of the menu items can be operated directly using the remote buttons.
- The MENU, ENTER, and SELECT ▼/▲ buttons on the TV can also be used for the operations above.

Front of TV

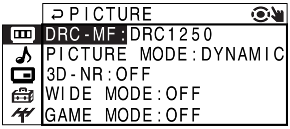


■ Changing the "PICTURE" setting

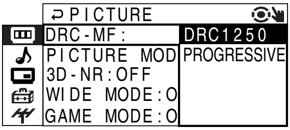
The "PICTURE" menu allows you to adjust the picture settings.

1 Press MENU.

2 Make sure the "PICTURE" icon ( ) is selected, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "DRC-MF"), then press ENTER.



Select	To
"DRC-MF"	choose either "DRC1250" or "PROGRESSIVE" (see page 12).
"PICTURE MODE"	choose either "DYNAMIC", "STANDARD", "HI-FINE", "PERSONAL"*, or "ADJUST" (see page 11).
"3D-NR"	adjust picture signal automatically to reduce noise. Press ↑ or ↓ to select "ON", then press ENTER. To cancel, select "OFF", then press ENTER.
"WIDE MODE"	choose either "ON" or "OFF" (see page 12).
"GAME MODE"	adjust the picture setting that is suitable to view video games. Press ↑ or ↓ to select "ON", then press ENTER. To cancel, select "OFF", then press ENTER.

* When the "PERSONAL" mode is selected, you can receive the last adjusted picture settings from the "ADJUST" option (see page 22).

Notes

- "GAME MODE" is available only when receiving signals through (video input), (S video input), or (component video input).
- The DRC-MF mode is not selectable when GAME MODE is turned on.

continue

continued

Adjusting the "ADJUST" items under "PICTURE MODE"

1 Press ↑ or ↓ to select the desired item (e.g.,"COLOR"), then press ENTER.

2 Adjust the value according to the following table, then press ENTER.

For	Press ↓ or ← to	Press ↑ or → to
"PICTURE"	decrease picture contrast.	increase picture contrast.
"COLOR"	decrease color intensity.	increase color intensity.
"BRIGHT"	darken the picture.	brighten the picture.
"HUE"	increase red picture tones.	increase green picture tones.
"SHARP"	soften the picture.	sharpen the picture.

Notes

- "HUE" can be adjusted for the NTSC color system only.
- Reducing sharpness ("SHARP") can also reduce picture noise.

3 Repeat the above steps to adjust other items.

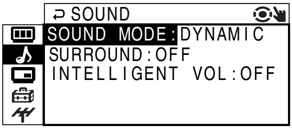
The adjusted settings will be received when you select "PERSONAL".

■ Changing the "SOUND" setting

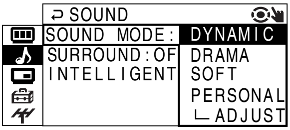
The "SOUND" menu allows you to adjust the sound settings.

1 Press MENU.

2 Press ↑ or ↓ to select the "SOUND" icon (♪), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "SOUND MODE"), then press ENTER.



Select	To
"SOUND MODE"	choose either "DYNAMIC", "DRAMA", "SOFT", "PERSONAL"*, or "ADJUST" (see page 11).
"SURROUND"	choose either "TruSurround", "SIMULATED" or "OFF" (see page 14).
"INTELLIGENT VOL"	adjust the volume of all program numbers and video inputs automatically. Press ↑ or ↓ to select "ON", then press ENTER. To cancel, select "OFF", then press ENTER.

* When the "PERSONAL" mode is selected, you can receive the last adjusted sound settings from the "ADJUST" option (see page 24).

continue

continued

Adjusting the "ADJUST" items under "SOUND MODE"

1 Press ↑ or ↓ to select the desired item (e.g., "BALANCE"), then press ENTER.

2 Adjust the value according to the following table, then press ENTER .

For	Press ↓ or ← to	Press ↑ or → to
"BASS"	decrease the bass.	increase the bass.
"TREBLE"	decrease the treble.	increase the treble.
"BALANCE"	increase the left speaker's volume.	increase the right speaker's volume.
"BBE"	select "HIGH" for higher enhancement of sound clarity; select "LOW" for lower enhancement of sound clarity; select "OFF" to cancel BBE sound.	

3 Repeat the above steps to adjust other items.

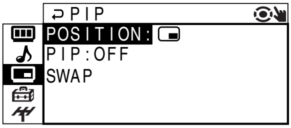
The adjusted settings will be received when you select "PERSONAL".

Changing the Picture-in-Picture ("PIP") setting

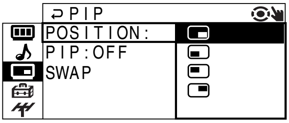
The "PIP" menu allows you to display a sub screen, change the sub screen position and exchange pictures between the main and sub screens.

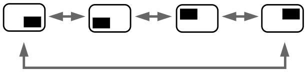
1 Press MENU.

2 Press ↑ or ↓ to select the "PIP" icon ( ), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "POSITION"), then press ENTER.



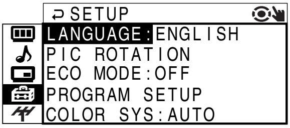
Select	To
"POSITION"	change the position of the sub screen. Press ↑ or ↓ to select the desired position, then press ENTER . 
"PIP"	display a sub screen. Press ↑ or ↓ to select "ON", then press ENTER . To cancel, press or select "OFF", then press ENTER .
"SWAP"	exchange pictures between the main screen and sub screen.

Changing the "SETUP" setting

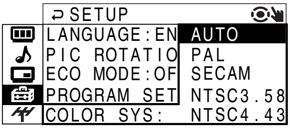
The "SETUP" menu allows you to change the menu language, adjust the picture position, reduce your TV power consumption, set up your program numbers and select the color system.

1 Press MENU.

2 Press ↑ or ↓ to select the "SETUP" icon (), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "COLOR SYS"), then press ENTER.

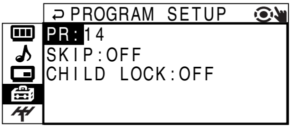


Select	To
"LANGUAGE"	change the menu language. Press ↑ or ↓ to select either "ENGLISH", "中文" (Chinese), " عربي " (Arabic), or " ไทย " (Thai) then press ENTER. The selected menu language appears.
"PIC ROTATION"	adjust the picture position when it is not aligned with the TV screen. Press ↑ , → , ↓ or ← to adjust the picture position, then press ENTER.
"ECO MODE"	reduce power consumption of your TV to save energy. Press ↑ or ↓ to select "ON", then press ENTER. To cancel, select "OFF", then press ENTER. When you press (i+) or turn on the TV, ECO MODE (ECO) symbol will appear on the screen for a while.
"PROGRAM SETUP"	adjust each channel settings (see **Adjusting each program number settings ("PROGRAM SETUP")** on page 27).
"COLOR SYS"	Select the color system. Normally, set this to "AUTO".

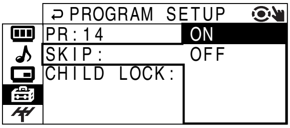
Adjusting each program number settings (“PROGRAM SETUP”)

1 Select “PROGRAM SETUP” from the “SETUP” menu.

2 Select “PR” and press ENTER. Press ↑ or ↓ to select the desired program number you want to adjust, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “SKIP”), then press ENTER.



Select	To
“PR”	select the desired program number.
“SKIP”	skip unwanted or unused program number. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.
“CHILD LOCK”	prevent children from watching this selected program number. Press ↑ or ↓ to select “ON”, then press ENTER. The lock symbol ( ) appears on the screen. To cancel, select “OFF”, then press ENTER If you preset a locked program number, that program number will be unlocked automatically.

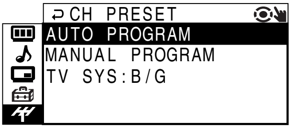
4 To continue adjusting other program numbers, press ↑ or ↓ to select “PR”, then repeat step 2 and 3.

■ Changing the Channel Preset (“CH PRESET”) setting

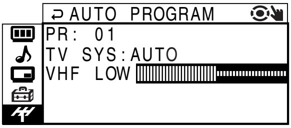
The “CH PRESET” menu allows you to preset channels automatically, manually preset channels and select the TV system.

1 Press MENU.

2 Press ↑ or ↓ to select the “CH PRESET” icon ( ), then press ENTER.



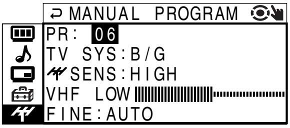
3 Press ↑ or ↓ to select the desired item (e.g., “AUTO PROGRAM”), then press ENTER.



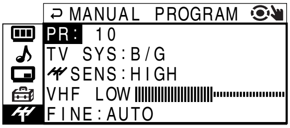
Select	To
“AUTO PROGRAM”	preset channels automatically.
“MANUAL PROGRAM”	manually preset desired channels and channels that cannot be preset automatically (see **Presetting channels manually** on page 29).
“TV SYS”	select the TV system. Press ↑ or ↓ to select either “B/G”, “I”, “D/K” or “M”, then press ENTER.

Presetting channels manually

1 After selecting "MANUAL PROGRAM", select the program number to which you want to preset a channel.



(1) Make sure "PR" is selected, then press ENTER.

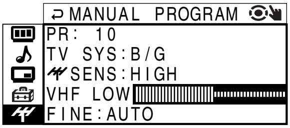


(2) Press ↑ or ↓ until the program number you want to preset (e.g., program number "10") appears on the menu, then press ENTER.

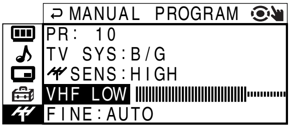
Tip

- You can also select the program number with the PROGR +/– or number buttons.

2 Select the desired channel.

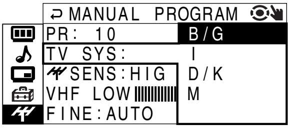


(1) Press ↑ or ↓ to select either "VHF LOW", "VHF HIGH", or "UHF", then press ENTER.

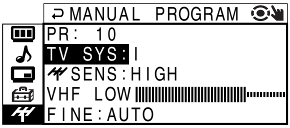


(2) Press ↑ or ↓ until the desired channel's broadcast appears on the TV screen, then press ENTER.

3 If the sound of the desired channel is abnormal, select the appropriate TV system.



(1) Press ↑ or ↓ to select "TV SYS", then press ENTER.



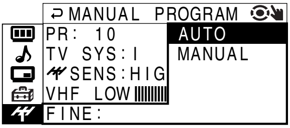
(2) Press ↑ or ↓ until the sound becomes normal, then press ENTER.

continue

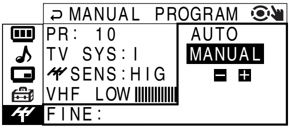
continued

4 If you are not satisfied with the picture and sound quality, you may be able to improve them by using the "FINE" tuning feature.

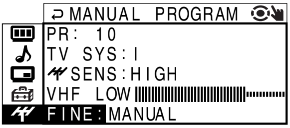
(1) Press ↑ or ↓ to select "FINE", then press ENTER.



(2) Press ↑ or ↓ to select "MANUAL", then press ENTER.

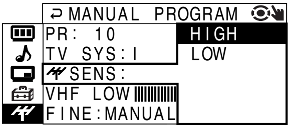


(3) Press ↑, ↓, ← or → until the picture and sound quality are optimal, then press ENTER.
The + or – icon on the menu flashes while tuning.

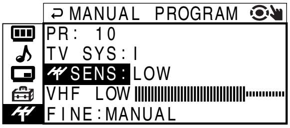


5 If the TV signal is too strong and the picture is distorted, you can adjust the TV reception sensitivity.

(1) Press ↑ or ↓ to select "SENS", then press ENTER.



(2) Press ↑ or ↓ to select "LOW", then press ENTER.

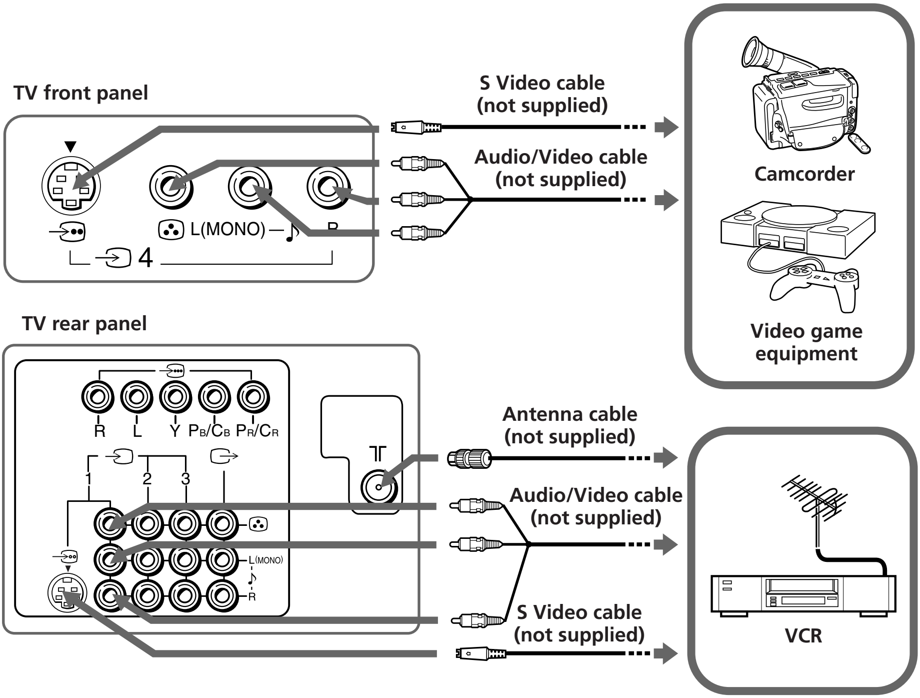


Note

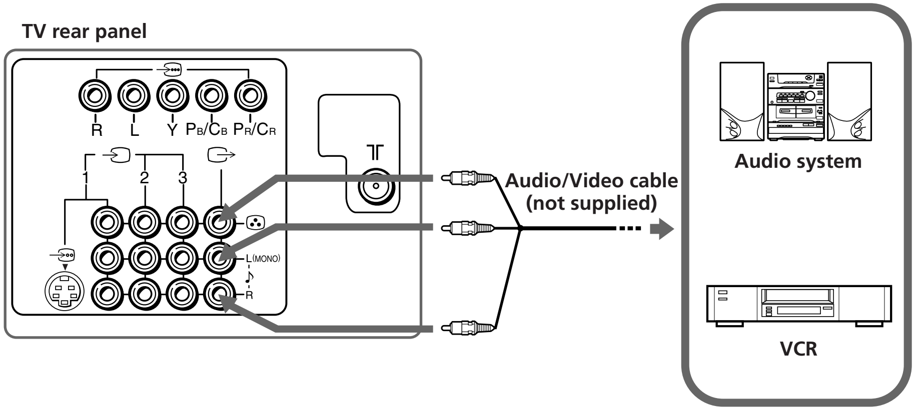
- If you connect a VCR to ╥ (antenna input), preset the signal output from the VCR to the program number 0 on the TV.

Connecting optional components

Connecting to the video input terminal (⇥)



Connecting to the monitor output terminal (⇥)



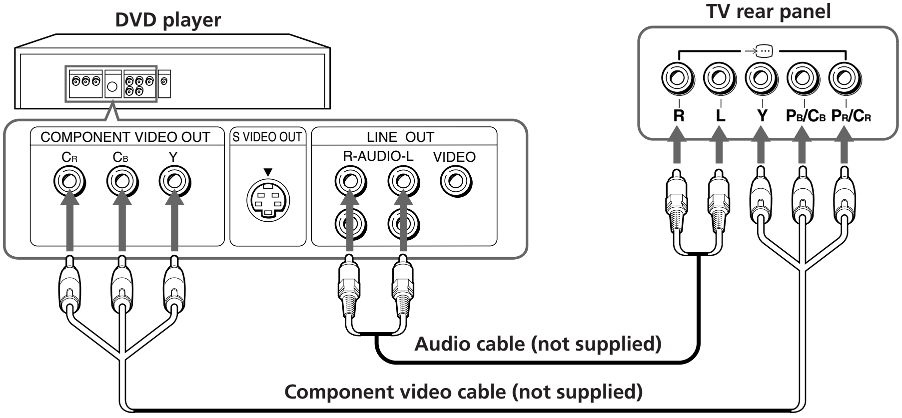
continue

Connecting a DVD player to the component video input terminal (⇥)

1 Using an audio cable, connect R and L under ⇥ (component video input) on your TV to the LINE OUT, AUDIO R and L output connectors on your DVD player.

2 Using a component video cable, connect Y, PB/CB, and PR/CR under ⇥ (component video input) on your TV to the COMPONENT VIDEO OUT Y, CB, and CR output connectors on your DVD player.

3 Press DVD on the remote to watch the ⇥ (component video input) and "DVD" will appear on your screen.



Notes

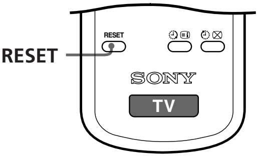
- Some DVD player terminals may be labeled differently:

Connect	To (on the DVD player)
Y (green)	Y
PB/CB (blue)	CB, PB, Cb or B-Y
PR/CR (red)	CR, PR, Cr or R-Y

- When both ⇥ (S video) and ⇥ (video) for ⇥ 1 or ⇥ 4 are connected at the same time, ⇥ (S video) is automatically selected. To view ⇥ (video), disconnect the S video cable.
- If you select "DVD" on your TV screen, the signal from the ⇥ (monitor output) will not be output properly. This does not indicate a malfunction.
- When receiving a progressive signal through the ⇥ (component video input), "PIP" is not available, and "DRC-MF" and "GAME MODE" are not selectable.

Troubleshooting

If you have any problem while viewing your TV, you can either use the Reset function or check the Troubleshooting guide below. If the problem persists, contact your Sony dealer.

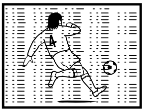
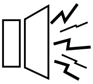
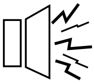
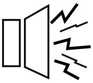


Reset function

Press the RESET button on your remote control. Your TV will go blank for about half a second then the picture will reappear with “RESET” displayed on your TV screen for about 10 seconds.

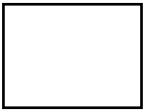
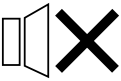
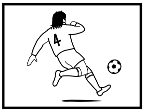
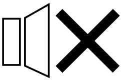
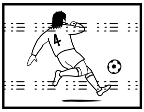
Pressing RESET will set your TV to the factory setting, but certain problems may be solved.

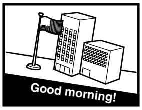
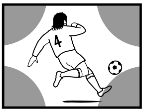
Troubleshooting guide

Symptom	Possible cause	Solutions	Page
Snowy picture  Noisy sound 	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and at the wall.	31
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
	• Channel presetting is inappropriate or incomplete.	• Display the “CH PRESET” menu and select “MANUAL PROGRAM” to preset the channel again.	29
	• Signal transmission is low.	• Try using a booster.	–
Distorted picture Noisy sound 	• Broadcast signals are too strong.	• Display the “CH PRESET” menu and select “MANUAL PROGRAM”. Then, select “ SENS: LOW”.	30
		• Turn off or disconnect the booster if it is in use.	–
Good picture Noisy sound 	• The TV system setting is inappropriate.	• Display the “CH PRESET” menu and select the appropriate TV system (“TV SYS”).	29
	• PIP sound is selected when PIP is displayed.	• Press SOUND or .	13

continue

continued

Symptom	Possible cause	Solutions	Page
No picture  **No sound** 	• The power cord, antenna or VCR is not connected.	• Check the power cord, antenna and VCR connections.	31
	• The TV is not turned on.	• Press I/⏻ (power). • Press ⏼ (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	9 8
Good picture  **No sound** 	• The volume level is too low.	• Press ◺ + to increase the volume level.	9
	• The sound is muted. • PIP sound is selected when PIP is displayed.	• Press 🔇 to cancel the muting. • Press SOUND or ◳.	9 13
Dotted lines or stripes 	• There is local interference from cars, neon signs, hair dryers, power generators, etc.	• Do not use a hair dryer or other equipment near the TV. • Check the antenna setup. Contact a Sony dealer for advice.	– –
Double images or "ghosts"	• Broadcast signals are reflected by nearby mountains or buildings.	• Use a highly directional antenna. • Use the fine tuning ("FINE") function.	– 30
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
	• Use of a booster is inappropriate.	• Turn off or disconnect the booster if it is in use.	–
No color	• The color level setting is too low.	• Display the "PICTURE" menu and select "ADJUST" of "PICTURE MODE", then adjust the "COLOR" level.	22
	• The color system setting is inappropriate.	• Display the "SETUP" menu and check the color system ("COLOR SYS") setting (usually set this to "AUTO").	26
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–

Symptom	Possible cause	Solutions	Page
Picture slant 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. • Display the "SETUP" menu and adjust "PIC ROTATION" so that the picture position is optimal.	– 26
Abnormal color patches 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏻ (main power) on the TV to turn off the TV for about 15 minutes, then turn it on again to demagnetize the TV.	–
TV cannot receive stereo broadcast sound. **or** **Stereo broadcast sound switches on and off or is distorted.**	• The stereo reception setting is inappropriate.	• Press A/B until "AUTO" appears on the screen.	16
	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and on the wall.	31
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
"100" appears at the top of the screen and there is no Teletext display.	• The channel carries no Teletext broadcast.	—	17
Teletext display is incomplete (snowy picture or double images).	• Connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR, and at the wall.	31
	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	–
	• Signal transmission is too low.	• Try using a booster. • Use the fine tuning ("FINE") function.	– 30

continue

continued

Symptom	Possible cause	Solutions	Page
The ⏻ (standby) indicator on your TV flashes red several times after every three seconds.	• Your TV's self-diagnosis function indicates the possible problems.	• Count the number of times the ⏻ (standby) indicator flashes. Press ⓘ (main power) to turn off your TV. Contact your nearest Sony service center.	–
Cannot play shooting games.	• Some shooting games which involve pointing a light beam at the TV screen with an electronic gun or rifle cannot be used with your TV. For details, see the instruction manual supplied with the video game software.	—	–
TV cabinet creaks.	• Changes in room temperature sometimes make the TV cabinet expand or contract, causing a noise. This does not indicate a malfunction.	—	–
A small "boom" sound is heard when the TV is turned on.	• The TV's demagnetizing function is working. This does not indicate a malfunction.	—	–

Specifications

	KV-DR34M69	KV-DR29M69		Note
Power requirements	110-240 V AC, 50/60 Hz			
Power consumption (W)	Indicated on the rear of the TV			
Television system	B/G, I, D/K, M			
Color system	PAL, PAL 60, SECAM, NTSC3.58, NTSC4.43			
Stereo/Bilingual system	NICAM Stereo/Bilingual B/G, I; A2 Stereo/Bilingual B/G			
Teletext language	English, Arabic, French			
Channel coverage **B/G**	VHF : E2 to E12 UHF : E21 to E69 CATV : S01 to S03, S1 to S41			
I	UHF : B21 to B68 CATV : S01 to S03, S1 to S41			
D/K	VHF : C1 to C12, R1 to R12 UHF : C13 to C57, R21 to R60 CATV : S01 to S03, S1 to S41, Z1 to Z39			
M	VHF : A2 to A13 UHF : A14 to A79 CATV : A-8 to A-2, A to W+4, W+6 to W+84			
(Antenna)	75-ohm external terminal			
Audio output (Speaker)	6W + 6W			
3D WOOFER	15W			
Number of terminal **(Video)**	Input: 4	Output: 1	Phono jacks; 1 Vp-p, 75 ohms	
(Audio)	Input: 4	Output: 1	Phono jacks; 500 mVrms	
(S Video)	Input: 2		Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms	
(Component Video)	Input: 1		Phono jacks; Y: 1 Vp-p, 75 ohms, sync negative P_B/C_B: 0.7 Vp-p, 75 ohms P_R/C_R 0.7 Vp-p, 75 ohms Audio: 500 mVrms	
(Headphone)	Output: 1		Stereo minijack	
Picture tube	34 in.	29 in.		
Tube size (cm)	86	72		Measured diagonally
Screen size (cm)	80	68		Measured diagonally
Dimensions (w/h/d, mm)	894 × 690 × 569	786 × 596 × 514		
Mass (kg)	85	57		

Design and specifications are subject to change without notice.

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